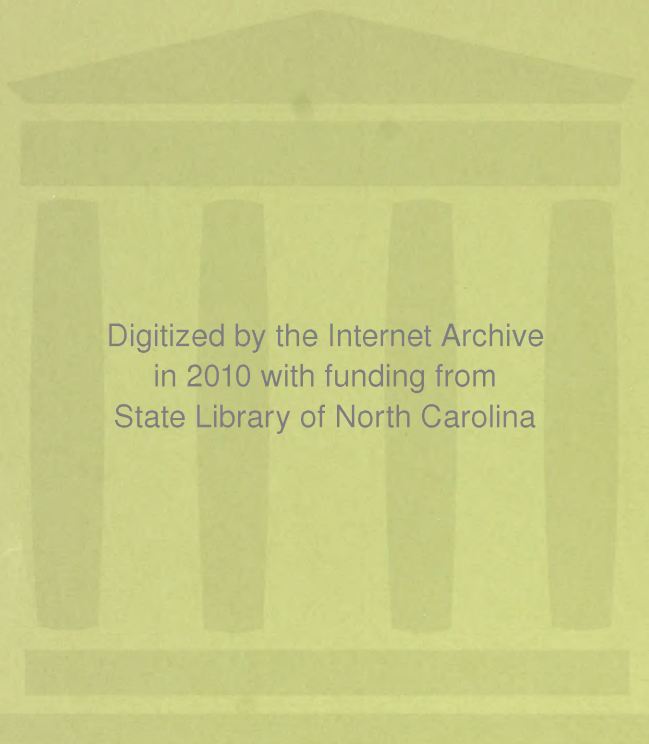


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ANNEXATION STUDY



NASHVILLE, NORTH CAROLINA



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ANNEXATION STUDY



NASHVILLE, NORTH CAROLINA

ACKNOWLEDGEMENTS

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Carolina Telephone and Telegraph Company

State of North Carolina:

Local Government Commission

Department of Revenue

U. S. Government:

Farmers' Home Administration

PREPARED BY THE TOWN OF NASHVILLE, N. C.

Milton M. Strickland, Mayor
Billie G. Kennedy, Town Clerk

BOARD OF COMMISSIONERS

John M. Evans
Woodrow W. Griffin
Jack R. Nelms
Rex A. Paramore

PLANNING BOARD

Willis W. Ward, Chairman
Mrs. Elizabeth H. High
Dr. David S. Jackson
Jimmy W. Smith
J. G. Vick
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TECHNICAL ASSISTANCE PROVIDED BY:

DIVISION OF COMMUNITY PLANNING
DEPARTMENT OF CONSERVATION AND DEVELOPMENT
STATE OF NORTH CAROLINA

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INTRODUCTION

The following section of the North Carolina General Statutes, (G.S. Chapter 160, Article 36), encourages North Carolina towns of Nashville's size to extend their boundaries to include the developed or developing areas outside their boundaries. (See Appendix A for the full Statute.)

"The General Assembly of North Carolina do enact:

G.S. 160-453.1 Declaration of Policy. It is hereby declared as a matter of State Policy:

(a) That sound urban development is essential to the continued economic development of North Carolina.

(b) That municipalities are created to provide the governmental services essential for sound urban development and for the protection of health, safety and welfare in areas being intensively used for residential, commercial, industrial, institutional and government purposes or in areas undergoing such development;

(c) That municipal boundaries should be extended, in accordance with legislative standards applicable throughout the State, to include such areas and to provide the high quality of governmental services needed therein for the public health, safety and welfare; and

(d) That new urban development in and around municipalities having a population of less than 5,000 persons tends to be concentrated close to the municipal boundary rather than being scattered and dispersed as in the vicinity of larger municipalities, so that the legislative standards governing annexation by smaller municipalities can be simpler than those for large municipalities and still attain the objectives set forth in this Section;

(e) That areas annexed to municipalities in accordance with such uniform legislative standards should receive the services provided by the annexing municipality as soon as possible following annexation."

While Towns are encouraged to annex those areas that meet the qualifications set forth in the Statute in some detail, and provide them with urban services, it can safely be assumed that the Assembly did not intend that annexation should result in undue financial burdens either to the inhabitants and property owners in the Town

or to those in the area annexed. The two-fold purpose of this report is 1) to delineate those areas on Nashville's fringe that would qualify for annexation under this Statute and 2) to estimate the financial consequences of the Town of annexing these eligible areas.

The Delineation of Study Areas

The Statute sets forth the criteria to be used in choosing areas for annexation in the following words:

"G.S. 160-453.4. Character of Area to be Annexed.

(a) A municipal governing board may extend the municipal corporate limits to include any area which meets the general standards of subsection (b), and which meets the requirements of subsection (c).

(b) The total area to be annexed must meet the following standards:

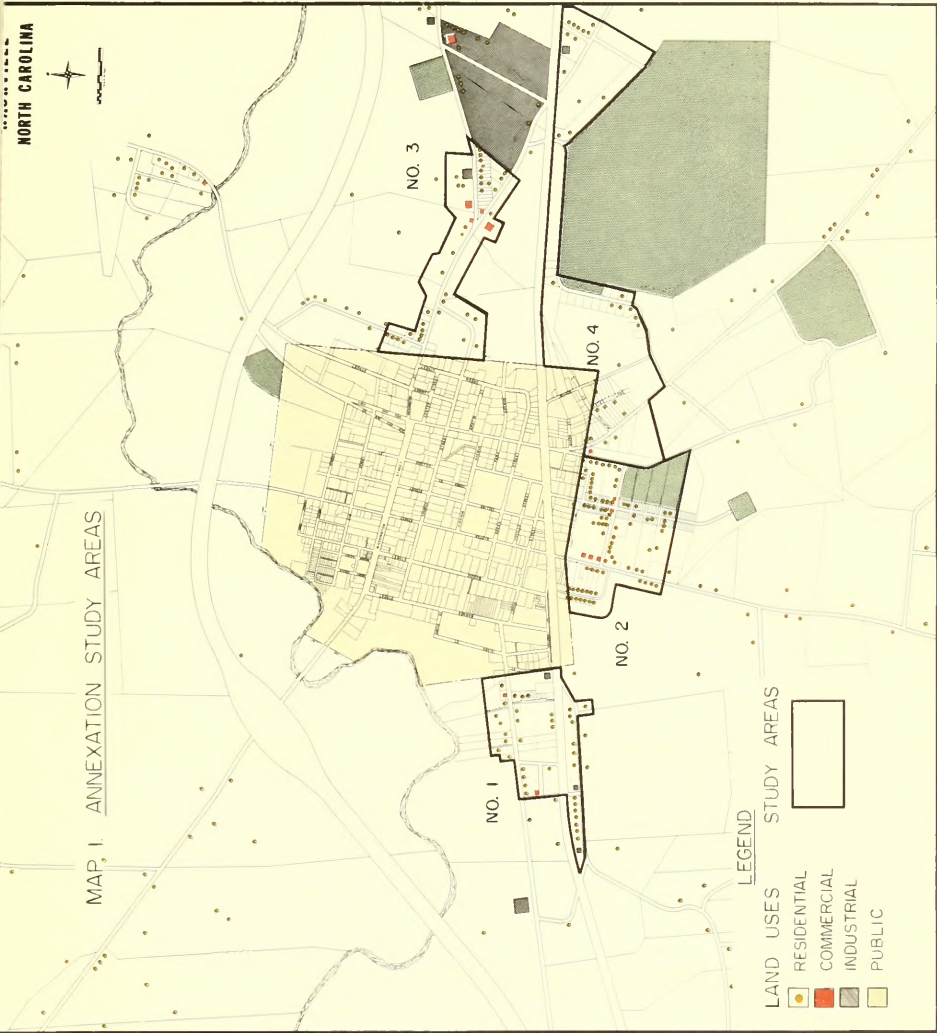
1. It must be adjacent or contiguous to the municipality's boundaries at the time the annexation proceeding is begun.
2. At least one-eighth of the aggregate external boundaries of the area must coincide with the municipal boundary.
3. No part of the area shall be included within the boundary of another incorporated municipality.

(c) The area to be annexed must be developed for urban purposes. An area developed for urban purposes is defined as any area which is so developed that at least sixty percent (60%) of the total number of lots and tracts in the area at the time of annexation are used for residential, commercial, industrial, institutional or governmental purposes, and is subdivided into lots and tracts such that at least sixty percent (60%) of the total acreage, not counting the acreage used at the time of annexation for commercial, industrial, governmental or institutional purposes, consists of lots and tracts five acres or less in sizes.

(d) In fixing new municipal boundaries, a municipal governing board shall, wherever practical, use natural topographic features such as ridge lines and streams and creeks as boundaries, and if a street is used as a boundary, include within the municipality developed land on both sides of the street."



MAP 1. ANNEXATION STUDY AREAS



LEGEND

LAND USES

- RESIDENTIAL
- COMMERCIAL
- INDUSTRIAL
- PUBLIC

STUDY AREAS

- [Outline symbol]

With the above standards or criteria in mind, the developing areas around Nashville were inspected through aerial photographs, land use maps and tax maps to pick out portions of the "fringe" that either met these standards or promised to meet them in the foreseeable future. These Preliminary Study Areas are shown in Map 1. (A detailed description of how the individual areas compared with the above standards is given in Appendix B in the back of this report.)

Since the primary aim of this study was to determine whether any areas of Nashville's fringe could be annexed without fiscal hardship, no great effort was made to decide on the precise boundaries of the Study Areas. It is believed, that the financial consequences of annexation will not be significantly affected by adding or subtracting a few acres of land or a few residences or business places. Care would have to be taken, however, to ensure that the revised Study Areas still meet the requirements of General Statutes 160.453.4: Character of Area to be Annexed, as spelled out above.

Study Area No. 4 failed by a considerable margin to qualify under the standards, so the examination of the financial impact of annexing territory was limited to Study Areas No. 1, 2, and 3.

Reasons for Favoring Annexation

The following reasons are offered for favoring the annexation of these areas around the Town of Nashville that meet the Statutory requirements set forth in the preceding section, provided that annexation does not impose financial hardships or inequities on residents or property owners of the original Town or of the areas to be annexed:

1. Police operations would be extended to the newly annexed areas, providing greater security to life and property not only from crime but from accidents and fire.

2. The Town would extend its refuse collection and disposal services to the newly annexed areas, providing a valuable convenience to residents, preventing the unsanitary and unsightly disposal of refuse on vacant lots and along public roadsides, and making unnecessary the burning of refuse in densely populated areas.

3. The Town would have street lights installed in the newly annexed areas, discouraging criminal activity and making night-time travel safer for both motorists and pedestrians.

4. The Town would extend its authority to inspect buildings in the annexed areas, and thus prevent the construction and occupancy of buildings that are structurally unsound.

5. The Town would be able, upon enactment of a Minimum Housing Code, to apply this code to the annexed areas as well as the original Town. This code would set minimum standards for plumbing, heating, light and privacy in dwellings to prevent people from living in conditions that are detrimental to their physical and mental health.

6. Annexation would increase the Town's total property value, adding to the Town's legal debt capacity and increasing its ability to undertake the capital improvement projects, especially in the recreation field, that its citizens want.

7. The following reasons are put forth to justify the imposition of taxes that comes with annexation:

- a. The annexed property and its occupants would receive the benefits of the above services, financed by taxation.
- b. The presence of the Town of Nashville, its resident population and the public services and public investment they have established and continue to maintain are in part responsible for the high value of land outside the Town for some distance. It is, therefore, not unfair for the Town to impose some taxes on the value of this land through annexation.

Financial Impact of Annexation

Annexation of an area permits the annexing municipality to increase its revenues through taxation. It also imposes on the town the costs of providing urban services to the newly annexed areas. If Nashville were to annex any area under G.S. 160, Article 36 (providing for annexation without a referendum), it would have to be able to finance the following operations, as set forth in the Statute:

" (1) Provide for extending police protection, fire protection, garbage collection and street maintenance services to the area to be annexed on the date of annexation on substantially the same basis and in the same manner as such services are provided within the rest of the municipality prior to annexation. If a water distribution system is not available in the area to be annexed,

the plans must call for reasonably effective fire protection services until such time as water lines are made available in such area under existing municipal policies for the extension of water lines.

"(2) Provide for extension of water mains and sewer lines into the area to be annexed so that property owners in the area to be annexed will be able to secure public water and sewer service according to the policies in effect in such municipality for extending water and sewer lines to individual lots or subdivisions. If the municipality must, at its own expense, extend water and/or sewer mains into the area to be annexed before property owners in the area can, according to municipal policies, make such connection to such lines, then the plans must call for contracts to be let and construction to begin on such lines within one year following the effective date of annexation."

This section of the report presents the results of an attempt to measure the extra costs and the extra revenues that would occur to the Nashville treasury in case of annexation of each of the Study Areas, under specified conditions, and thus determine the net impact of annexation on the treasury.

APPROACH:

The financial impact that annexation would have on the Town of Nashville can be strongly affected by changes in the Town's tax rate and the terms on which it provides services to persons and property. It can also be affected, of course, by events beyond the Town's control, such as land development, the distribution of State-collected tax revenues, and the availability of Federal grants.

The approach used in this report has been to first estimate the financial results of annexing each of the Study Areas under present Town policies and under present conditions. These will be the "Basic Estimates". Discussions of the impact on these estimates of changes in policy and conditions will follow.

TECHNIQUES:

Use of Special Accounts:

Three accounts were created to classify the revenues and expenditures involved in annexation:

- (1) The Water Account was credited with the revenue from water sales and was charged with all those expenses that were estimated to be created by the Town's water service operations.

- (2) The Sewer Account was charged with those municipal expenses that were attributed to the Town's sewer operations. At present there is no charge for sewer service, so no revenue was credited to this account when current policy was being considered.
- (3) The General Account was created to handle all credits and charges not assigned to the Water Account or the Sewer Account.

(The separate accounts were used to make it easier to understand the results of changing the terms of sewer and water extension bonds and the charges for continuing service). It should also help Town Officials decide on the question of extending water or sewer service without annexation.

THE BASIC ESTIMATES: FINANCIAL IMPACT OF ANNEXATION
UNDER PRESENT POLICIES AND CONDITIONS

The "Basic Estimates" on the following pages show that, subject to important assumptions, the Town of Nashville would lose money on annexation of any of the Study Areas. Annexation would also require the Town taking on large amounts of debt to finance sewer and water extensions.

The Town Board will probably want to consider adopting policies concerning the terms of water and sewer extensions that would lighten the burden of annexation on the persons and property within the present Town limits. Policies of this type are discussed in the section of this report entitled "Policy Changes Affecting the Financial Impact of Annexation", starting on page 57.

Assumptions Underlying Basic Estimates

The estimates of financial impact of the individual Study Areas that are set forth on the preceding pages, are based on the assumptions below. Important qualifications on these assumptions follow immediately.

1. No change in the terms upon which the Town extends services, especially sewer and water, as stated on page 13, except that it is assumed connection charges will cover connection expenses.
2. No changes in the characteristics of the Study Areas as presented in Exhibit A: Statistics of Eligible Study Areas.
3. No change in the level of services provided by the Town of Nashville, nor in the unit costs of these services.
4. No receipt of grants from the Federal Government or other sources to help pay for sewer and water extensions, except for the currently expected grant for the construction of the sewage treatment plant, water tower and the laying of water lines in Brooklyn (Study Area No. 2).
5. Sewer lines of at least 8 inches in diameter and water lines of at least 6 inches in diameter would be extended far enough to allow all presently developed property in each Study Area to tap on. No developed property would be farther than 400 feet from a fire hydrant.
6. All developed properties in each Study Area would be voluntarily connected to the public water system, and would use the average amount of water for a household and thus pay an average water bill.

THE BASIC ESTIMATES: FINANCIAL IMPACT OF ANNEXATION UNDER PRESENT
POLICIES AND CONDITIONS:

The figures below are estimates of the net gains or losses (net income change) to the Town budget if the Study Areas are annexed, subject to the assumptions stated on the following page.

NET INCOME CHANGE FROM ANNEXATION: (Annual basis)

(Including capital outlay debt amortization at 4% interest over indicated repayment periods)

<u>Study Area No. 1:</u>	<u>20 years</u>	<u>30 years</u>	<u>40 years</u>
General Account:	\$ 1,159	\$ 1,159	\$ 1,159
Water Account:	-1,414	-1,086	-934
Sewer Account:	-4,806	-3,837	-3,544
All Accounts:	<u>-5,061</u>	<u>-3,764</u>	<u>-3,319</u>

<u>Study Area No. 2:</u>			
General Account:	-3,186	-3,186	-3,186
Water Account:	-6	215	318
Sewer Account:	-3,393	-2,811	-2,541
All Accounts:	<u>-6,565</u>	<u>-5,782</u>	<u>-5,409</u>

<u>Study Area No. 3:</u>			
General Account:	883	883	883
Water Account	395	429	445
Sewer Account:	-3,125	-2,535	-2,261
All Accounts:	<u>-1,847</u>	<u>-1,223</u>	<u>-933</u>

All Areas Combined:

General Account:	-1,144	-1,144	-1,144
Water Account:	-1,025	-442	-171
Sewer Account:	-11,324	-9,183	-8,346
All Accounts:	<u>-13,493</u>	<u>-10,769</u>	<u>-9,661</u>

THE BASIC ESTIMATES: (continued)

CAPITAL OUTLAYS TO EXTEND SERVICES:

	<u>General Account</u>	<u>Water Account</u>	<u>Sewer Account</u>	<u>All Accounts</u>
Study Area No. 1:	\$-----	\$20,823	\$61,585	\$82,408
Study Area No. 2:	-----	14,041	36,933	50,974
Study Area No. 3:	-----	2,157	37,458	39,615
All Areas Combined	-----	<u>37,021</u>	<u>135,976</u>	<u>172,997</u>

STREET PAVING COSTS¹ (Lump Sum, rather than annual costs)
(Town pays 67% of paving cost, or \$3.00 per running foot of street)

<u>Study Area No. 1</u>	<u>Study Area No. 2</u>	<u>Study Area No. 3</u>	<u>Total</u>
\$-----	\$8,100.	\$1,800.	\$9,900.

¹ The paving of streets is not required in order to meet Statutory annexation requirements.

7. The availability of credit and the approval of the Local Government Commission for the undertaking of any debt required to finance the extension of sewer and water lines.

8. All capital outlays required to extend sewer and water service to the Study Areas would be financed with general obligation bonds at four percent (4%) interest and with repayment periods of 20, 30, or 40 years.

9. Each of the Areas would be annexed under the provisions of G.S. Chapter 160, Article 36 (which is included as Appendix A of this report and which requires that sewer and water services be extended to newly annexed properties on the same terms as it is available to properties within the Town limits at the time of annexation.)

Qualifications on the Estimates and Assumptions

The following considerations should be kept in mind when evaluating the Basic Estimates and the assumptions on which they are based.

Extent of Sewer and Water Improvements:

Assumption No. 5, that all developed property would have sewer and water mains extended to it, naturally leads to a high estimate of the cost of annexation. This assumption is based on three points:

1. The statutory requirement that sewer and water lines be extended into the area to be annexed "so that property owners will be able to secure public water and sewer service according to the policies in effect in such municipality for extending water and sewer lines to individual lots or subdivisions".
2. The belief that past practice in Nashville with regard to the extension of sewer and water lines could be interpreted as a policy which provides sewer and water extensions to all property within the Town limits with no requirement that the property owner participate in the cost.
3. The belief that owners of property in the annexed areas would expect and ask for sewer and water extensions at no cost to them, unless a different policy was adopted by the Town Board prior to annexation.

Sewer and Water Cost Estimates:

The estimates of the capital costs of extending sewer and water lines to the Study Areas, except for the water improvements in Study Area No. 2, were made without actual engineering studies. They should be reviewed by a professional engineer before plans are based upon them.

Water Revenue:

Assumption No. 6, that all developed properties in each Study Area would tap onto the Town water lines, will probably result in too high an estimate of revenues from water service charges. If no additional property owners tapped onto the new lines, the estimates of revenue would be too high by the following amounts:

<u>Study Area</u>	<u>Revenue Over Estimate</u>
1	\$ 576
2	2,208
3	<u>1,200</u>
All	\$3,984

If the water revenues would be critical in the decision to annex, a survey of potential customers would be in order.

Federal Grants:

It is not definitely known whether Nashville would find it possible to obtain further Federal grants to assist in financing the sewer and water improvements proposed for the Study Areas. The Farmers Home Administration would have to be consulted on this matter.

Debt Limitations:

Providing a complete installation of water and sewer facilities to any of the Study Areas would require a large outlay of capital, especially if the Town chose to finance it without using special assessments. The amount of long-term debt that the Town can undertake is limited not only by the Town's capacity to repay the principal and interest, but also by a statutory maximum and the judgement of the N. C. Local Government Commission. The feasibility of assuming further debt would best be determined by consulting with the Local Government Commission.

Town Policies Affecting the Financial Impact of Annexation:

Nashville's tax rate and the terms upon which the Town extends and maintains municipal services will strongly affect the financial outcome of any annexation that the Town undertakes. Nashville's current policies on these matters are set forth below.

Property Taxes:¹

Rate: 1.2% of assessed value (\$1.20 per \$100 assessed value).

Assessed Value: 60% of appraised value.

Appraised Value: 80% of full market value.

(Using the above valuation percentages, the actual effective tax rate on the full market value of property turns out to be about .6% or 60¢ per \$100.)

Water Service Terms:

Connection, or tap-on fees:

3/4 - inch diameter lateral: \$ 50.00

1 - inch diameter lateral: 100.00

2 - inch diameter lateral or over: actual cost
of connection.

Water Service or Use Charges: (monthly)

1st 1,000 gallons: \$2.00 in Town (also minimum
charge).
\$3.00 out of Town (also minimum
charge).

Each additional 1,000: .50 in or out of Town.

Water service has been extended to nearly all developed property in the Town limits, but no special assessments or other charges designed to apply specifically to extensions have been made. Properties outside the Town limits pay an extra \$1.00 per month on their water bill. They are served with 2-inch lines, inadequate for fire-fighting, except for a 6-inch line from the Town system to the County Home along Highway 64A East. This line is owned by the County and Baker Oil Co. An extra fee of \$100. is charged by the owners to connect to this line.

¹Property valuation is the county's responsibility.

Sewer Service Terms:

Connection or tap-on fees:

4-inch diameter lateral: \$40.00

Laterals over 4 inches in size: actual cost of connection.

Sewer service or use charges: None.

Sewer service has been extended to practically all developed property within the Town limits without special assessments or other charges designed to pay specifically for the extensions.

Refuse Collection Terms:

There is no special charge for regular refuse collection and disposal service; the costs of this service are financed with general revenues.

EXHIBIT A

EXHIBIT A: STATISTICS OF ELIGIBLE STUDY AREAS

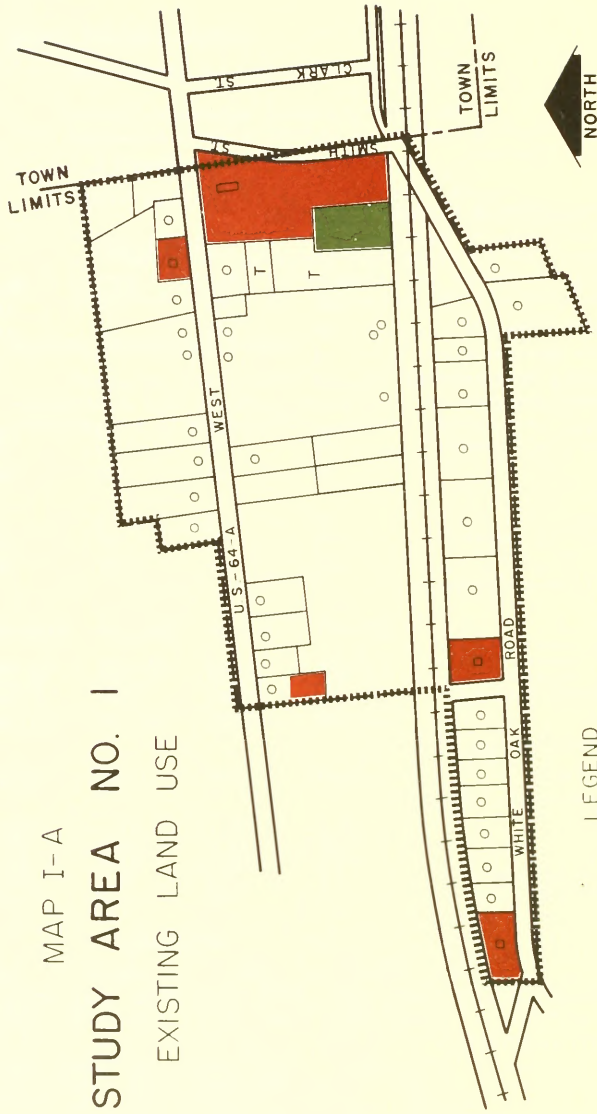
	<u>Study Areas</u>			
	<u>No. 1</u>	<u>No. 2</u>	<u>No. 3</u>	<u>No. 4</u>
Population (est.)	119	426	139	684
Number of Households (Houses)	35	86	41	162
Number of Business Establishments:	2	5	6	13
Number of Industrial Establishments:	3	0	0	3
Town Water Customers (Users)				
Present Users:	23	40	22	85
Future Users (now resident):	12	46	25	83
Total:	35	86	47	168
Town Sewer Users				
Present Users:	0	0	0	0
Future Users (now resident):	35	86	47	168
Total:	35	86	47	168
Assessed Value of Taxable Property:				
(est.)				
Real Estate:	\$188,050	\$79,320	\$123,520	\$390,890
Personal Property:				
Business Invent. & Fixt:	8,500	1,000	147,000	166,500
All Other Personal Prop:	47,000	20,000	31,000	98,000
Corporate Excess Property:	21,000	3,000	3,000	27,000
Total:	264,550	103,320	304,520	672,390
Revenue from Taxable Property at Present				
Town Tax Rate (\$.012):	3,175	1,240	3,654	8,069
Land Area in Various Uses: (Acres)				
Total:	36.2	51.1	47.1	134.4
Vacant:	14.2	10.4	14.6	39.2
Residential:	15.8	29.5	23.3	68.6
Commercial or Industrial:	4.7	1.0	9.2	14.9
Public or Untaxed:	1.5	10.2	0.0	11.7

	<u>Study Areas</u>							
	<u>No. 1</u>		<u>No. 2</u>		<u>No. 3</u>		<u>All</u>	
<u>Length of Existing Streets:</u>	<u>miles</u>	<u>feet</u>	<u>miles</u>	<u>feet</u>	<u>miles</u>	<u>feet</u>	<u>miles</u>	<u>feet</u>
To be maintained by State:	.87	4600	.61	3200	.83	4400	2.31	12,200
To be maintained by Nashville:								
Now paved:	---	----	.28	1500	.20	1100	.48	2,600
Now unpaved:	---	----	.50	2700	.12	600	.62	3,300
Total:	---	----	.78	4200	.32	1700	1.10	5,900
Total of All Streets:	.87	4600	1.39	7400	1.15	6100	3.41	18,100

MAP I-A

STUDY AREA NO. 1

EXISTING LAND USE



LEGEND

- HOUSE
- T TRAILER
- COMMERCIAL BUILDING
- LAND PARCEL
- COMMERCIAL LAND
- PUBLIC LAND (UNTAXED PROPERTY)

SCALE
1" = 400'



STUDY AREA NO. 1

General Account:

EXHIBIT B, on the following two pages, shows the changes in expenses and revenues to the General Account in case of annexation.

EXHIBIT B

STUDY AREA NO. 1

GENERAL ACCOUNT

GENERAL ACCOUNT: Revenue Increase from Annexation

Ad Valorem Taxes:

Personal Property:

Business Inventories & Fixtures:	\$ 8,500 valuation @ \$.012 = \$ 102
-------------------------------------	---------------------------------------

Household Furniture, Motor Vehicles, all Other Personal Prop.:	47,000 valuation @ .012 = 564
--	-------------------------------

Real Estate:	188,050 valuation @ .012 = 2,257
--------------	----------------------------------

Corporate Excess Property:

Atlantic Coast Line:	11,000 valuation @ .012 = 132
----------------------	-------------------------------

Carolina Power & Light:	9,000 valuation @ .012 = 108
-------------------------	------------------------------

Carolina Tel. & Tel.:	1,000 valuation @ .012 = 12
-----------------------	-----------------------------

Powell Fund:

Street Allocation:	miles @ 490.00 = ---
--------------------	----------------------

Population Allocation:	119 people @ 2.30 = 274 ^{1/}
------------------------	---------------------------------------

Intangibles Tax:	3247 dollars of tax levy @ .05 = 162
------------------	--------------------------------------

Franchise Tax:	35 households @ 2.17 = 76
----------------	---------------------------

Beer & Wine Tax:	119 people @ 1.37 = 163 ^{1/}
------------------	---------------------------------------

Poll Tax:	119 people @ .12 = 14
-----------	-----------------------

Dog Tax:	119 people @ .14 = 17
----------	-----------------------

Privilege License Taxes:	= 40
--------------------------	------

Car Tags:	35 households @ 1.16 = 41
-----------	---------------------------

Total Revenue Increase:	<u>\$3,525</u>
-------------------------	----------------

^{1/} Not available until about 1972, after 1970 Census is certified. These amounts are not included in the total.

EXHIBIT B

STUDY AREA NO. 1

GENERAL ACCOUNT

GENERAL ACCOUNT: Expense Increases from Annexation (annual basis)

<u>Administrative and General:</u>	<u>Units</u>	<u>Unit Cost</u>	<u>Total</u>
Clerical Salaries;			
Office Expenses; Print., Post;			
Telephone; General:	119 people @	2.85	\$ 332
<u>Electric Lights:</u>			
Street Lights:	9 lights @	36.00	324
<u>Police Department:</u>			
Salaries:	1/3 patrolman	1,200.00	1,200
<u>Fire Department:</u>	no change		
<u>Streets and Sidewalks:</u>			
Labor:			
Refuse Collection:	35 customers	6.00	210
All Other Functions:	miles of Town street @	1,150.00	---
Machinery & Equipment	miles of Town street @	667.00	---
Materials & Supplies:			
(Motor Fuel): 1 mile of Town & State street @		300.00	300
(Other): miles of Town street @		495.00	---
Total Expense Increase:			<u>\$2,366</u>

GENERAL ACCOUNT: Net Change from Annexation:

Revenue Increase:	\$3,525
Expense Increase:	2,366
Net Income Increase or Decrease(-)	<u>\$1,159</u>

STUDY AREA NO. 1

Water Account:

EXHIBIT C, on the following two pages, presents the detailed expense and revenue estimates involved in serving this Area with water.

MAP I-B on page 23 shows the general layout of the water lines proposed to serve this area. These improvements are proposed without a study by a professional engineer, and should be considered as rough estimates until an engineering study is done.

The water mains proposed for this area would come to dead ends, rather than loop. Because such long mains, if dead ended, would not carry water pressure as efficiently, pipes 8" rather than 6" in diameter are proposed to ensure more adequate water pressure for fire fighting.

It was assumed that the full capital outlay requirement would be debt-financed, using general obligation bonds or a loan from the Federal government through the Farmer's Home Administration. Three possible loan terms are presented here because the actual terms are uncertain. It is believed that the interest rate on any debt would be about 4%. No account was taken of a possible grant from the Federal government through FHA, of up to 50% of the project cost.

The Water Account would gain 12 new customers from Area No. 1, (assuming that all developed properties adjoining the new mains would connect with them), but would lose the extra charges (\$1 per month) paid by the present 23 customers in the Area.

EXHIBIT C

STUDY AREA NO. 1

WATER ACCOUNT

WATER ACCOUNT: Capital Outlay to Begin Service

<u>Item</u>	<u>Quantity</u>	<u>Unit Price</u>	<u>Total</u>
8" Asbestos-Cement Pipe	4,600 lin. ft.	\$ 3.00	\$13,800
8" Gate Valves & Boxes	7	100.00	700
Fire Hydrants	5	164.00	820
8" x 8" Tee	2	60.00	120
Steel Pipe Encasements	100 lin. ft.	20.00	2,000
Cast Iron Pipe	110 lin. ft.	3.00	330
Replacing Asphalt Pavement	50 lin. ft.	1.75	88
Total Construction Cost:			17,858
Contingency Coat (10% of Construction Coat)			1,786
Engineering Cost (6% of Construction & Contingency Cost)			1,179
Total Capital Outlay			<u>\$20,823</u>

WATER ACCOUNT: Annual Coat of Retiring Debt on Capital Outlay

Annual payment required to retire a debt of \$20,823 at 4% interest, with varying lengtha of term. (Amortization)

<u>Term of Loan (years)</u>	<u>Annual Payment per \$1,000</u>	<u>Annual Payment on \$20,823</u>
20	\$73.58	\$1,532
30	57.83	1,204
40	50.52	1,052

EXHIBIT C

STUDY AREA NO. 1

WATER ACCOUNT

WATER ACCOUNT: Revenue Increases from Annexation

Revenue from all users in Study Area:	\$1,680.	
Less: revenue from present customers:	1,380.	
Net Revenue Increase:		\$300.

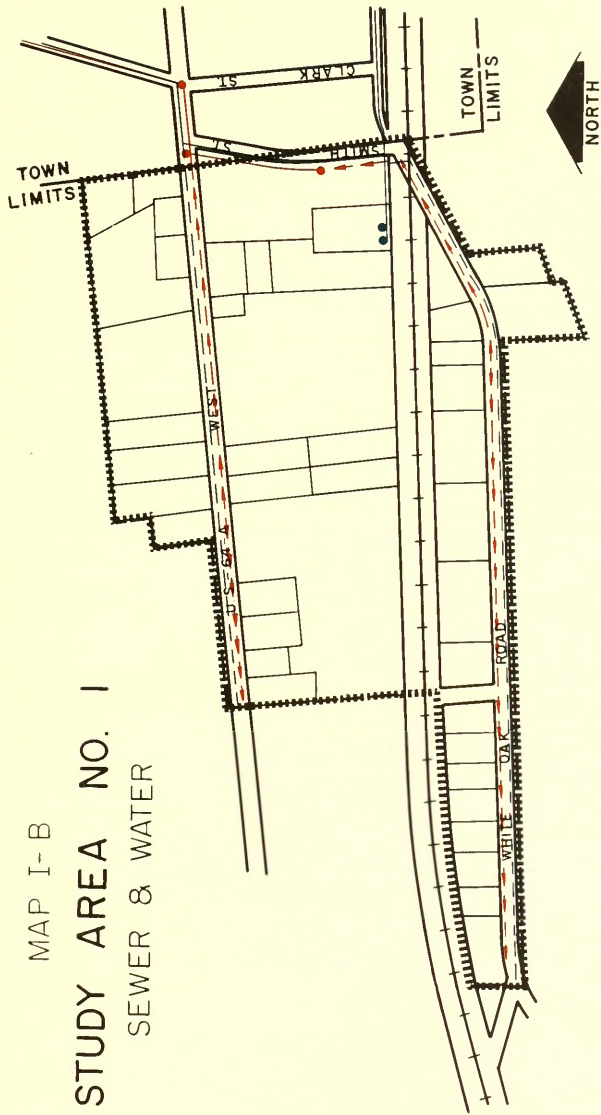
WATER ACCOUNT: Operating Expense Increases from Annexation
(Not counting present water customers in Area)

<u>Town Budget Item</u>	<u>Percent of Budget Item Relevant to Water</u>	<u>Cost Units</u>	<u>Unit Cost</u>	<u>Total Cost</u>
<u>Public Works:</u>				
Labor:				
Supervisory:	50%	12 Customers	\$2.50	\$30.
Other:				
Electric Power:	100%	12 Customers	2.78	33.
Repairs & Upkeep:	100%	12 Customers	4.61	55.
<u>Streets & Sidewalks:</u>				
Labor, Nonsupervisory:	5%	12 Customers	.75	9.
<u>General & Administrative:</u>				
Clerical Salaries; Office Expenses, Telephone, General Expenses:	25%	12 Customers	3.40	41.
<u>Buildings & Grounds:</u>				
Labor; Other Expense:	12½%	12 Customers	1.20	14.
Total Operating Expense Increase:				\$182.

WATER ACCOUNT: NET CHANGE IN INCOME FROM ANNEXATION:\$20,823. Loan at 4% interest

	<u>20 year term</u>	<u>30 year term</u>	<u>40 year term</u>
Net Revenue Increase:	\$ 300.	\$ 300.	\$ 300.
Net Operating Expense Increase:	-182.	-182.	-182.
Amortization Payment:	-1,532.	-1,204.	-1,052.
NET CHANGE IN INCOME:	\$-1,414.	\$-1,086.	\$ -934.

MAP I-B STUDY AREA NO. 1 SEWER & WATER



LEGEND

- WATER LINES (6-INCH OR LARGER)
 - EXISTING
 - - - PROPOSED FOR SERVICE OF STUDY AREA
- SEWER LINES
 - EXISTING
 - - - PROPOSED FOR SERVICE OF STUDY AREA

STUDY AREA NO. 1

Sewer Account:

The lay of the land in Study Area No. 1 is such that special arrangements would have to be made to get the sewage from this area into the present Town system. Instead of the usual situation, in which the sewage can be moved by gravity directly into collectors, Study Area could not transport its sewage into the Town system without one or more of the following special arrangements: (1) a pump and force main system to carry sewage over the high ground that separates parts of the Study Area from the existing mains on Smith Street. (2) the installation of from 3,000 to 4,000 feet of outfall, in addition to the street mains, to carry the sewage by gravity to some point on the existing system that is lower in elevation. Identifying the alternative arrangements for serving this area, estimating their costs and recommending a choice is beyond the competence of this report; an evaluation of the situation by a qualified engineer would be necessary. An incomplete cost estimation of serving this Study Area with sewer cannot be avoided, but an estimate will be made of the capital and annual cost of installing the street mains in this Study Area, as well as an estimate of the minimum cost of providing for the transportation of the sewage to the existing system.

EXHIBIT D presents the financial details of providing sewer service to Study Area No. 1. The revenues (none) and operating expenses would not be significantly affected by the means chosen to carry the sewage out of the Area (see paragraph above), but the capital outlay and debt expense figures apply only to the system of street mains, and not to the entire arrangements that would be necessary to connect this area to the Nashville public sewer system. It is estimated that the minimum capital outlay required to connect this system with the existing Town system would be \$25,000 in addition to the \$31,585 cost of the street main system.

EXHIBIT D

STUDY AREA NO. 1

SEWER ACCOUNT

SEWER ACCOUNT: Capital Outlay to Begin Service*

<u>Item</u>	<u>Quantity</u>	<u>Unit Price</u>	<u>Total</u>
8" Vitrified Clay Pipe w/manholes	5000 lin. ft.	\$ 5.00	\$25,000
Steel Pipe Encasements	100 lin. ft.	20.00	2,000
Replacing Asphalt Pavement	50 lin. ft.	1.75	88
Total Construction Cost:			27,088
Contingency Cost (10% of Construction Cost)			2,709
Engineering Cost (6% of Construction & Contingency Cost)			1,788
Total Capital Outlay:*			<u>\$31,585</u>

The above figures are based on the assumption that the State Highway Commission will permit breaching of State maintained highways in the Study Area. If they do not, and it is necessary to place sewer mains on both sides of the roadway to minimize the number of crossings the following approximate additional cost would be incurred:

<u>Extra length of 8" sewer main in lineal feet</u>	<u>Cost at \$6.00 per foot</u>	<u>Cost of highway crossing at \$1,000</u>	<u>Total Extra Cost</u>	<u>Annual Cost</u>
1,200	\$7,200	\$1,000	\$8,200	\$475.**

SEWER ACCOUNT: Annual Cost of Retiring Debt on Capital Outlay*

Annual payment required to retire a debt of \$31,585.00 at 4% interest, with varying lengths of term. (Amortization)

<u>Term of Loan (years)</u>	<u>Annual Payment per \$1,000.</u>	<u>Annual Payment on \$31,585</u>
20	\$73.58	\$2,324
30	57.83	1,827
40	50.52	1,596

* These figures refer only to the cost of installing the street main system. They do not cover the cost of transporting the collected sewage to some section of the existing Town system in order to get it to the sewage treatment facility. The extra capital cost of achieving this end would probably be no less than \$25,000.

** Assuming a debt would be incurred for total cost, to be amortized over 30 years at 4% interest.

EXHIBIT D

STUDY AREA NO. 1

SEWER ACCOUNT

SEWER ACCOUNT: Revenue Increases from Annexation

Revenue from all users in Study Area:
 Less revenue from present customers: (no revenue)
 Net Revenue Increase:

SEWER ACCOUNT: Operating Expense Increase from Annexation

<u>Town Budget Item:</u>	<u>Percent of Budget Item Charged to Sewer</u>	<u>Cost Units</u>	<u>Unit Cost</u>	<u>Total Cost</u>
<u>Public Works</u>				
<u>Labor:</u>				
Supervisory:	50%	35 Customers	2.50	88.
<u>Streets & Sidewalks:</u>				
Labor, Nonsupervisory:	5%	35 Customers	.75	26.
<u>General & Administrative</u>				
Clerical Salaries; Office Expenses; Telephone; General Expenses:	25%	35 Customers	3.40	119.
<u>Buildings & Grounds:</u>				
Labor; Other Expense:	12½%	35 Customers	1.20	42.
Total Operating Expense Increase:				<u>\$275.</u>

SEWER ACCOUNT: NET CHANGE IN INCOME FROM ANNEXATION:*
 (Under varying loan terms)

	<u>\$31,585* Loan at 4% interest</u>		
	<u>20 year term</u>	<u>30 year term</u>	<u>40 year term</u>
Net Revenue Increase:	\$ ---.	\$ ---.	\$ ---.
Net Operating Expense Increase:	-275.	-275.	-275.
Amortization Payment:*	-2,324.	-1,827.	-1,596.
NET CHANGE IN INCOME:	-2,599.	-2,102.	-2,028.

* These figures refer only to the cost of installing the street main system. They do not cover the cost of transporting the collected sewage to some section of the existing Town system in order to get it to the sewage treatment facility. The extra capital cost of achieving this end would probably be no less than \$25,000.

STUDY AREA NO. 1

All Accounts:

EXHIBIT E, which summarizes the expenses and revenues for this Study Area, takes into account an estimate of \$30,000 of capital outlay to overcome the sewage transportation problems in this area.

EXHIBIT E

STUDY AREA NO. 1

ALL ACCOUNTS

ALL ACCOUNTS: Net Income Change from Annexation (Annual Basis)

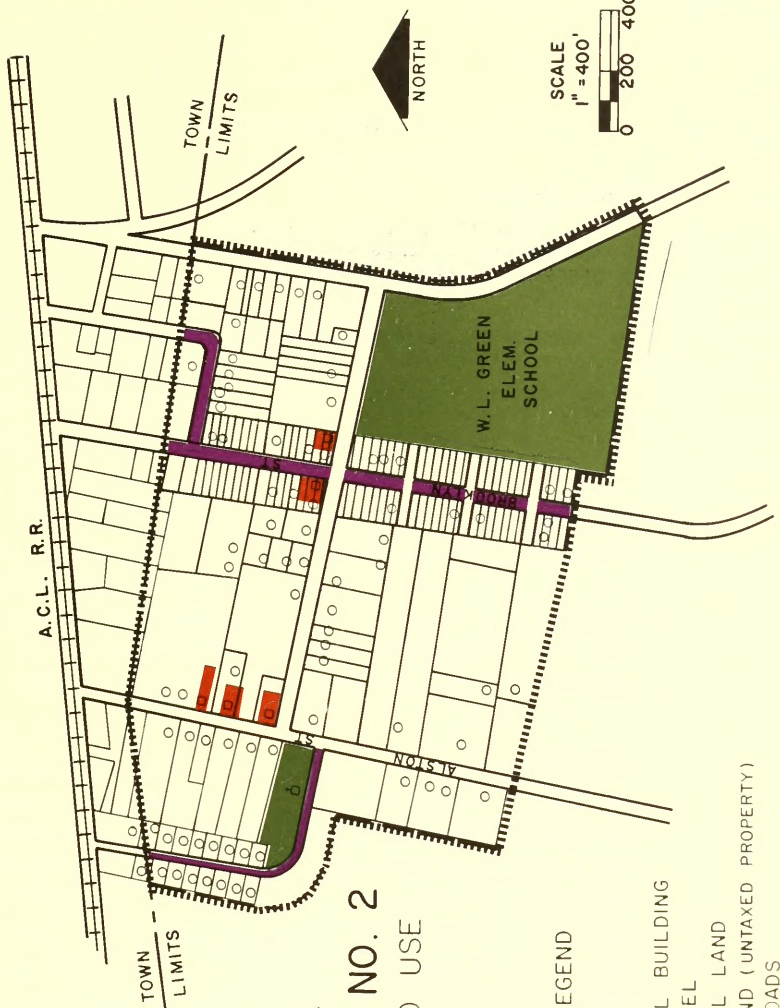
(Including capital outlay debt amortized at 4% interest
over indicated repayment periods)

<u>Net change in:</u>	<u>20 year term</u>	<u>30 year term</u>	<u>40 year term</u>
General Account:	\$1,159	\$1,159	\$1,159
Water Account:	-1,414	-1,086	-934
Sewer Account:	-4,806	-3,837	-3,544
Total Net Change in Income	-5,061	-3,764	-3,319

ALL ACCOUNTS: Capital Outlays for extension of services:

General Account:	\$-----
Water Account:	20,823
Sewer Account: ^{1/}	61,585
All Accounts:	<u>\$82,408</u>

^{1/} Includes an estimated capital outlay of \$30,000 to overcome
problems of sewage transportation to Town system.



MAP II-A STUDY AREA NO. 2 EXISTING LAND USE

LEGEND

- HOUSE
- T TRAILER
- COMMERCIAL BUILDING
- LAND PARCEL
- COMMERCIAL LAND
- PUBLIC LAND (UNTAXED PROPERTY)
- UNPAVED ROADS



SCALE
1" = 400'

0 200 400

STUDY AREA NO. 2

General Account:

EXHIBIT B, on the following two pages, shows the changes in expenses and revenues to the General Account in case of Annexation.

EXHIBIT B

STUDY AREA NO. 2

GENERAL ACCOUNT

GENERAL ACCOUNT: Revenue Increase from Annexation

Ad Valorem Taxes:

Personal Property:

Business Inventories & Fixtures:	\$1,000 valuation @ \$.012 = 12.
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Household Furniture, Motor Vehicles, all Other Personal Prop.:	20,000 valuation @	.012 = 240.
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Real Estate:	79,320 valuation @	.012 = 952.
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Corporate Excess Property:

Atlantic Coast Line:	----- valuation @	.012 = ---
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Carolina Power & Light:	1,500 valuation @	.012 = 18.
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Carolina Tel. & Tel.:	1,500 valuation @	.012 = 18.
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Powell Fund:

Street Allocation:	.78 miles @	490.00 = 382.
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Population Allocation:	426 people @	2.30 = 980.
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Intangibles Tax:	1564 dollars of tax levy @	.05 = 78.
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Franchise Tax:	86 households @	2.17 = 187.
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Beer & Wine Tax:	426 people @	1.37 = 584 ^{1/}
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Poll Tax:	426 people @	.12 = 51.
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Dog Tax:	426 people @	.14 = 60.
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Privilege License Taxes:		100.
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Car Tags:	40 households @	1.16 = 46.
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Total Revenue Increase:		<u>\$2,144.</u>
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^{1/} Not available until about 1972, after 1970 Census is certified.
These amounts are not included in the total.

EXHIBIT B

STUDY AREA NO. 2

GENERAL ACCOUNT

GENERAL ACCOUNT: Expense Increases from Annexation (annual basis)

<u>Administrative and General:</u>	<u>Units</u>	<u>Unit Cost</u>	<u>Total</u>
Clerical Salaries; Office Expenses; Print., Post; Telephone; General:	426 people @	2.85	\$1,214.
<u>Electric Lights:</u>			
Street Lights:	13 lights @	36.00	468.
<u>Police Department:</u>			
Salaries:	1/3 patrolman @	1,200.00	1,200.
<u>Fire Department</u>	no change		
<u>Streets and Sidewalks:</u>			
Labor:			
Refuse Collection:	86 customers	6.00	516.
All Other Functions:	.78 miles of Town street	785.00	612.
Machinery & Equipment:	.78 miles of Town street @	667.00	520.
Materials & Supplies:			
(Motor Fuel):	1.38 miles of Town & State Street	300.00	414.
(Other):	miles of Town street	495.00	386.
Total Expense Increase:			<u>\$5,330.</u>

GENERAL ACCOUNT: Net Change from Annexation:

Revenue Increase:	2,144
Expense Increase:	5,330
Net Income Increase or Decrease (-)	<u>-3,186</u>

STUDY AREA NO. 2

Water Account:

MAP II-B on page 36 shows the general layout of the water lines proposed to serve Study Area No. 2. They were proposed as one part of a major water system improvement project by William B. McIntyre, Consulting Engineer, of Red Oak.¹

EXHIBIT C, on the following two pages, presents the detailed expense and revenue estimates for serving this area with Town water. The construction cost estimates were taken from Mr. McIntyre's report.

The major water improvement project mentioned above is expected to receive a Federal grant through the Farmer's Home Administration of approximately 34% of the total project cost, so 34% of the cost of serving Study Area No. 2 was charged off to this grant. The remaining capital outlay is expected to be financed with a loan from the Farmer's Home Administration, at an interest rate of about 4% but with a length of term unknown at this time. Three loan periods are presented to permit a tentative estimation of annual debt service charges.

The Water Account would gain an estimated 46 new customers from this area (assuming that all properties adjoining the new lines would connect to them) but would lose the extra charges (\$1 per month) levied against the present 40 users in the area, resulting in a net gain of only \$1,728 in revenues.

The last line in EXHIBIT C shows a net increase in annual income to the Town treasury from serving this area with water.

¹Engineer's Preliminary Report, Water Supply and Distribution System Improvements, etc., William B. McIntyre, Consulting Engineer, December 10, 1965.

EXHIBIT C

STUDY AREA NO. 2

WATER ACCOUNT

WATER ACCOUNT: Capital Outlay to Begin Service:

<u>Item</u>	<u>Quantity</u>	<u>Unit Price</u>	<u>Total</u>
6" Asbestos-Cement Pipe	5,500 lin. ft.	\$ 2.12	\$11,600.00
2" Steel Pipe	1,640 lin. ft.	1.25	2,050.00
6" Gate Valves & Boxes	6	80.00	480.00
2" Gate Valves & Boxes	2	52.00	104.00
Fire Hydrants	4	164.00	656.00
6" x 6" Tee	7	50.00	350.00
6" x 2" Tee	2	58.00	116.00
6" x 6" Cross	1	82.00	82.00
Steel Pipe Encasements	100 lin. ft.	20.00	2,000.00
Cast Iron Pipe	40 lin. ft.	3.00	120.00
Replacing Asphalt Pavement	150 lin. ft.	1.75	262.50
Total Construction Cost:			17,820.50 ^{1/}
Contingency Cost (10% of Construction Cost)			1,782.00
Engineering Cost (6% of Construction & Contingency Cost)			1,672.00
Total Estimated Project Cost:			21,274.50
Less: Federal Grant: (34%)			7,233.50
Total Capital Outlay by Town:			<u>\$14,041.00</u>

WATER ACCOUNT: Annual Cost of Retiring Debt on Capital Outlay

Annual payment required to retire a debt of \$14,041. at 4% interest, with varying lengths of term. (Amortization)

<u>Term of Loan (years)</u>	<u>Annual Payment per \$1,000</u>	<u>Annual Payment on \$14,041.</u>
20	\$73.58	\$1,033.
30	57.83	812.
40	50.52	709.

^{1/} Construction cost estimate taken from Engineer's Preliminary Report, Water Supply and Distribution System Improvements, etc., William B. McIntyre, Consulting Engineer, Dec. 10, 1965.

EXHIBIT C

STUDY AREA NO. 2

WATER ACCOUNT

WATER ACCOUNT: Revenue Increases from Annexation

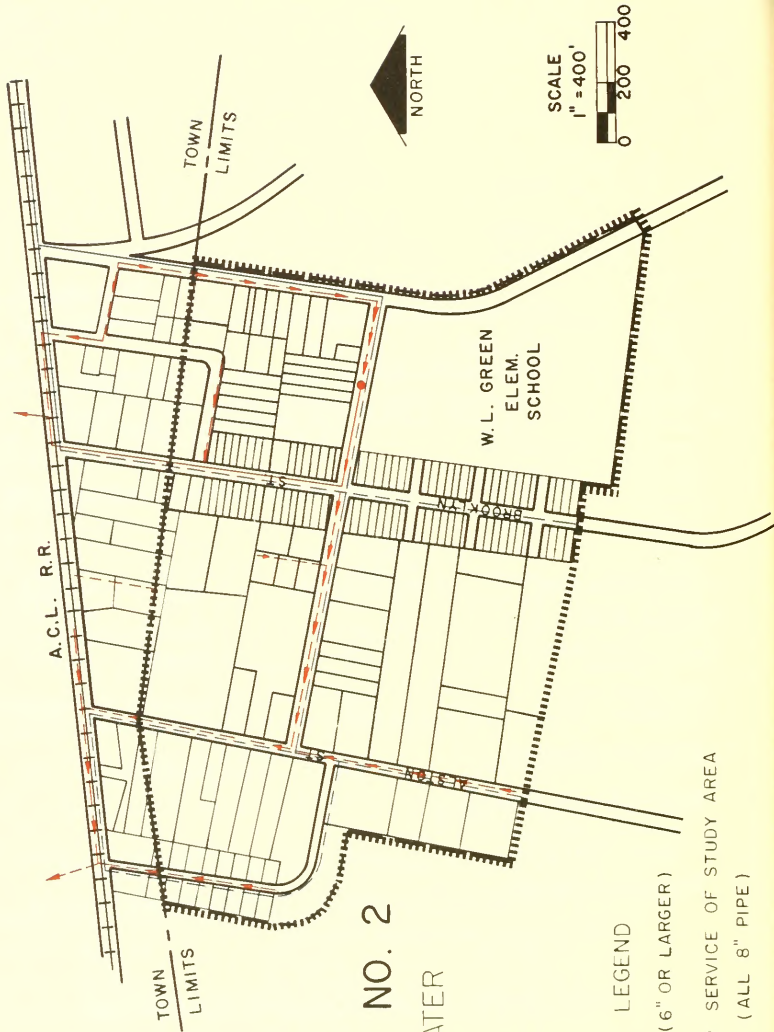
Revenue from all users in Study Area:	\$4,128	
Less: revenue from present customers:	2,400	
Net Revenue Increase:		\$1,728

WATER ACCOUNT: Operating Expense Increase from Annexation

<u>Town Budget Item</u>	<u>Percent of Budget Item Charged to Water Account</u>	<u>Cost Units</u>	<u>Unit Cost</u>	<u>Total Cost</u>
<u>Public Works:</u>				
Labor:				
Supervisory:	50%	46 Customers	2.50	115.
Other:				
Electric Power:	100%	46 Customers	2.78	128.
Repairs & Upkeep:	100%	46 Customers	4.61	212.
<u>Streets & Sidewalks:</u>				
Labor, Non-supervisory:	5%	46 Customers	.75	35.
<u>General & Administrative:</u>				
Clerical Salaries; Office Expenses, Telephone, General Expenses:	25%	46 Customers	3.40	156.
<u>Buildings & Grounds:</u>				
Labor: Other Expenses:	12½%	46 Customers	1.20	55.
Total Operating Expense Increase:				701.

WATER ACCOUNT: NET CHANGE IN INCOME FROM ANNEXATION:\$14,041 Loan at 4% Interest

	<u>20 year term</u>	<u>30 year term</u>	<u>40 year term</u>
Net Revenue Increase:	\$1,728	\$1,728	\$1,728
Net Operating Expense Increase:	-701	-701	-701
Amortization Payment:	-1,033	-812	-709
NET CHANGE IN INCOME:	+6	+215	+318



STUDY AREA NO. 2

Sewer Account:

The sewer system improvements proposed for this area (EXHIBIT D, MAP II-B) were made without a professional engineering study, so they should not be considered as reliable as the water system proposals and estimates.

The topography of this area, since it slopes toward Town, apparently makes it feasible to serve the developed portions of the area with gravity flow sewers as shown in MAP II-B.

This project would serve some presently unserved parts of Brooklyn that are already inside the Town limits, at small additional cost.

No revenue was credited to the Sewer Account because, under present policy, there is no special charge for the use of sewers after the cost of connection has been paid for.

EXHIBIT D

STUDY AREA NO. 2

SEWER ACCOUNT

SEWER ACCOUNT: Capital Outlay to Begin Service

<u>Item</u>	<u>Quantity</u>	<u>Unit Price</u>	<u>Total</u>
8" Vitrified Clay Pipe w/manholes	5900 lin. ft.	5.00	29,500
Steel Pipe Encasements	100 lin. ft.	20.00	2,000
Replacing Asphalt Pavement	100 lin. ft.	1.75	175
Total Construction Cost:			31,675
Contingency Cost (10% of Construction Cost)			3,168
Engineering Cost (6% of Construction & Contingency Cost)			2,090
Total Capital Outlay:			<u>36,933</u>

The above figures are based on the assumption that the State Highway Commission will permit breaching of State maintained highways in the Study Area. If they do not, and it is necessary to place sewer mains on both sides of the roadway to minimize the number of crossings the following approximate additional cost would be incurred:

<u>Extra length of 8" sewer main in lineal feet</u>	<u>Cost at \$6.00 per foot</u>	<u>Cost of highway crossing at \$1,000.</u>	<u>Total Extra Cost</u>	<u>Annual Cost</u>
1,000	\$6,000	\$1,000	\$7,000	\$406.*

SEWER ACCOUNT: Annual Cost of Retiring Debt on Capital Outlay

Annual payment required to retire a debt of \$36,933 at 4% interest, with varying lengths of term. (Amortization)

<u>Term of Loan (years)</u>	<u>Annual Payment per \$1,000.</u>	<u>Annual Payment on \$36,933.</u>
20	\$73.58	\$2,718
30	57.83	2,136
40	50.52	1,866

* Assuming a debt would be incurred for total cost, to be amortized over 30 years at 4% interest.

SEWER ACCOUNT

Revenue from all users in Study Area:
Less: revenues from present customers: (no revenue)
Net Revenue Increase:

<u>Town Budget Item:</u>	<u>Percent of Budget Item Charged to</u>	<u>Sewer Account</u>	<u>Cost Units</u>	<u>Unit Cost</u>	<u>Total Cost</u>
<u>Public Works</u>					
Labor:					
Supervisory:	50%	86 Customers	2.50		215
<u>Streets & Sidewalks:</u>					
Labor, Non-supervisory:	5%	86 Customers	.75		65
<u>General & Administrative</u>					
Clerical Salaries; Office Expenses, Telephone;					
General Expenses:	25%	86 Customers	3.40		292
<u>Buildings & Grounds:</u>					
Labor; Other Expense:	12½%	86 Customers	1.20		103
Total Operating Expenses Increase:					67

	<u>20 year term</u>	<u>30 year term</u>	<u>40 year term</u>
Net Revenue Increase:	---	---	---
Net Operating Expense Increase:	-675.	-675.	-675.
Amortization Payment:	-2,718.	-2,136.	-1,866.
NET CHANCE IN INCOME:	-3,383.	-2,811.	-2,541.

STUDY AREA NO. 2

All Accounts:

EXHIBIT E shows the estimated impact on the Nashville treasury of annexation of Study Area No. 2 under current conditions and policies as set forth at the beginning of this section.

EXHIBIT E

STUDY AREA NO. 2

ALL ACCOUNTS

ALL ACCOUNTS: Net Income Change from Annexation (Annual Basis)

(Including capital outlay debt amortized at 4% interest over indicated repayment periods)

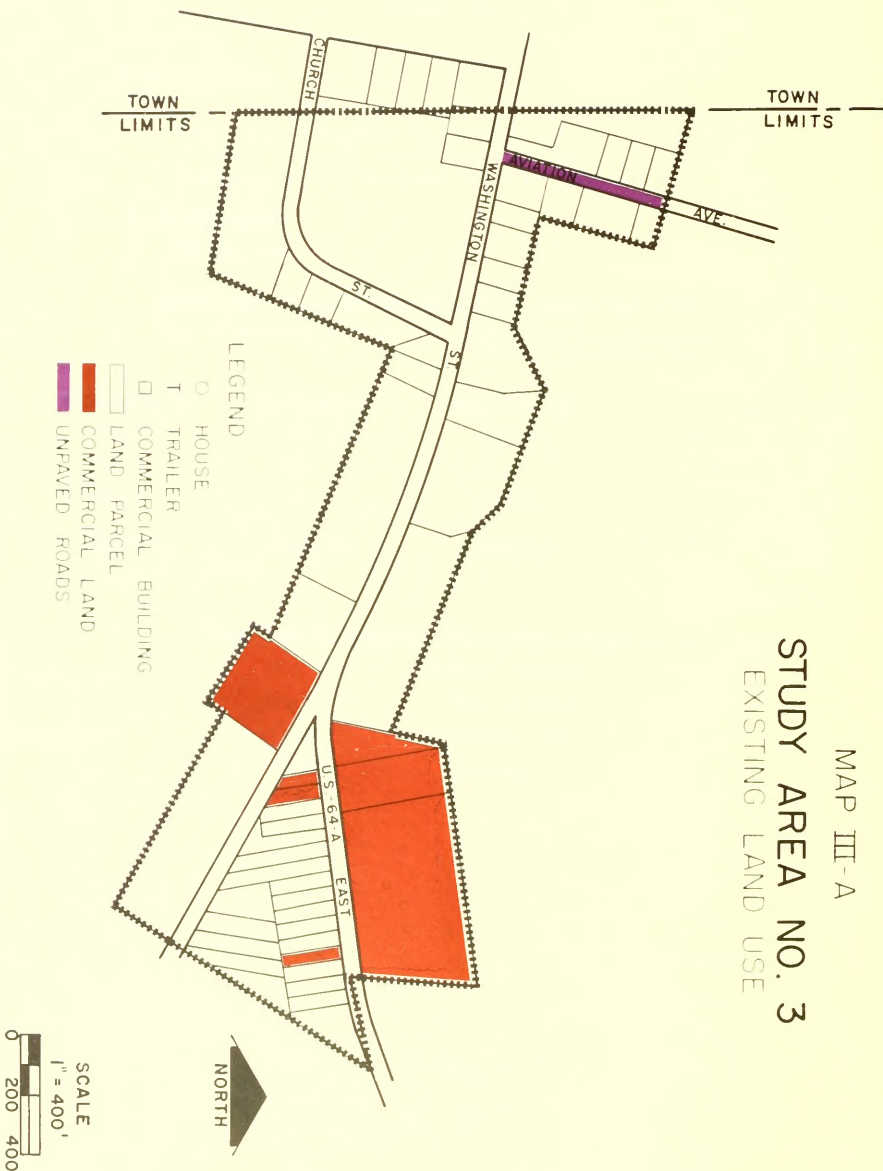
<u>Net change in:</u>	<u>20 year term</u>	<u>30 year term</u>	<u>40 year term</u>
General Account:	\$-3,186.	\$-3,186.	\$-3,186.
Water Account:	-6.	215.	318.
Sewer Account:	-3,393.	-2,811.	-2,541.
Total Net Change in Income:	<u>\$-6,585.</u>	<u>\$-5,782.</u>	<u>\$-5,409.</u>

ALL ACCOUNTS: Capital Outlays for extension of services:

General Account:	\$ ---
Water Account:	14,041
Sewer Account:	36,933
All Accounts:	<u>\$50,974</u>

MAP III-A

STUDY AREA NO. 3 EXISTING LAND USE



STUDY AREA NO. 3

General Account:

EXHIBIT B, on the following two pages, shows in detail the sources of expense and revenue to the General Account from the annexing of this area.

EXHIBIT B

STUDY AREA NO. 3

GENERAL ACCOUNT

GENERAL ACCOUNT: Revenue Increase from Annexation

Ad Valorem Taxes:

Personal Property:

Business Inventories & Fixtures:	\$147,000 valuation @	\$.012 =	\$1,764.
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Household Furniture, Motor Vehicles, all other Personal Prop.:	31,000 valuation @	.012 =	372.
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Real Estate:	123,520 valuation @	.012 =	1,482.
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Corporate Excess Property:

Atlantic Coast Line:	--- valuation @	.012 =	---
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Carolina Power & Light:	1,500 valuation @	.012 =	18.
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Carolina Tel. & Tel.:	1,500 valuation @	.012 =	18.
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Powell Fund:

Street Allocation:	.32 miles @	490.00 =	167.
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Population Allocation:	139 people @	2.30 =	320. ¹
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Intangibles Tax:	3846 dollars of tax levy @	.05 =	192.
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Franchise Tax:	41 households @	2.17 =	89.
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Beer & Wine Tax:	139 people @	1.37 =	190. ¹
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Poll Tax:	139 people @	.12 =	17.
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Dog Tax:	139 people @	.14 =	19.
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Privilege License Taxes:		=	150.
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Car Tags:	41 households @	1.16 =	48.
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Total Revenue Increase:			\$4,326.
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¹ Not available until about 1972, after 1970 Census is certified.
These amounts are not included in the total.

EXHIBIT B

STUDY AREA NO. 3

GENERAL ACCOUNT

General Account: Expense Increases from Annexation (Annual Basis)

<u>Administrative and General:</u>	<u>Units</u>	<u>Unit Cost</u>	<u>Total</u>
Clerical Salaries;			
Office Expenses; Print., Post;			
Telephone; General:	139 people @ \$	2.85 =	\$ 400.
<u>Electric Lights:</u>			
Street Lights:	10 lights @	36.00 =	360.
<u>Police Department:</u>			
Salaries:	1/3 patrolman @	3,600.00 =	1,200.
<u>Fire Department:</u>	no change		
<u>Streets and Sidewalks:</u>			
Labor:			
Refuse Collection:	86 customers @	6.00 =	516.
All Other Functions:	.32 miles of Town street @	785.00 =	251.
Machinery & Equipment:	.32 miles of Town street @	667.99 =	213.
Materials & Supplies:			
(Motor Fuel):	1.15 miles of Town and State street @	300.00 =	345.
(Other):	.32 miles of Town street @	495.00 =	158.
Total Expense Increase:			<u>\$3,443.</u>

GENERAL ACCOUNT: Net Change from Annexation:

Revenue Increase:	\$4,326.
Expense Increase:	-3,443.
<u>Net Income Increase or Decrease (-)</u>	<u>+883.</u>

STUDY AREA NO. 3

Water Account:

MAP III-B on page 49 shows the location of the single new water main required to serve this area. It also shows the water lines that are now in place and those that will be installed to connect the Town system with the new water tank and well proposed for construction in 1966.

The small capital outlay for water line construction would not require a loan, but it was put on an annual basis to make it convenient to include it with other capital outlays. (See EXHIBIT C)

The Water Account would gain an estimated 25 new customers from this area (assuming that all developed properties adjoining the new lines would connect to them) but would lose the extra charges (\$1 per month) levied against the present 22 users in the area.

As EXHIBIT C shows, this area would bring in more revenues than it would create expenses upon annexation. The fact that the area would be almost completely served with lines already in existence or necessary for other purposes is largely responsible for this situation.

EXHIBIT C

STUDY AREA NO. 3

WATER ACCOUNT

WATER ACCOUNT: Capital Outlay to Begin Service:

<u>Item</u>	<u>Quantity</u>	<u>Unit Price</u>	<u>Total</u>
6" Asbestos Cement Pipe	600 lin. ft.	\$ 2.12	\$1,272.
6" Gate Valves & Boxes	1	80.00	80.
Fire Hydrants	2	164.00	328.
6" x 6" Tee	1	50.00	50.
Cast Iron Pipe	20 lin. ft.	3.00	60.
Replacing Concrete Pavement	30 lin. ft.	2.00	60.
Total Construction Cost:			1,850.
Contingency Cost (10% of Construction Cost)			185.
Engineering Cost (6% of Construction and Contingency Cost)			122.
Total Capital Outlay:			<u>2,157.</u>

WATER ACCOUNT: Annual Cost of Retiring Debt on Capital Outlay

Annual payment required to retire a debt of \$2,157 at 4% interest, with varying lengths of term. (Amortization)

<u>Term of Loan (years)</u>	<u>Annual Payment per \$1,000</u>	<u>Annual Payment on \$2,157.</u>
20	\$73.58	\$159.
30	57.83	125.
40	50.52	109.

EXHIBIT C

STUDY AREA NO. 3

WATER ACCOUNT

WATER ACCOUNT: Revenue Increases from Annexation

Revenue from all users in Study Area:	\$2,256	
Less revenue from present customers:	1,320	
Net Revenue Increase:		\$936

WATER ACCOUNT: Operating Expense Increase from Annexation

<u>Town Budget Item</u>	<u>Percent of Budget Item Charged to Sewer</u>	<u>Cost Units</u>	<u>Unit Cost</u>	<u>Total Cost</u>
<u>Public Works:</u>				
Labor:				
Supervisory:	50%	25 Customers	2.50	63.
Other:				
Electric Power:	100%	25 Customers	2.78	70.
Powers & Upkeep:	100%	25 Customers	4.61	115.
<u>Streets & Sidewalks:</u>				
Labor, Nonsupervisory:	5%	25 Customers	.75	19.
<u>General & Administrative:</u>				
Clerical Salaries, Office Expenses, Telephone, General Expenses:	25%	25 Customers	3.40	85.
<u>Buildings & Grounds:</u>				
Labor; Other Expense:	12½%	25 Customers	1.20	30.
Total Operating Expense Increase:				<u>\$382.</u>

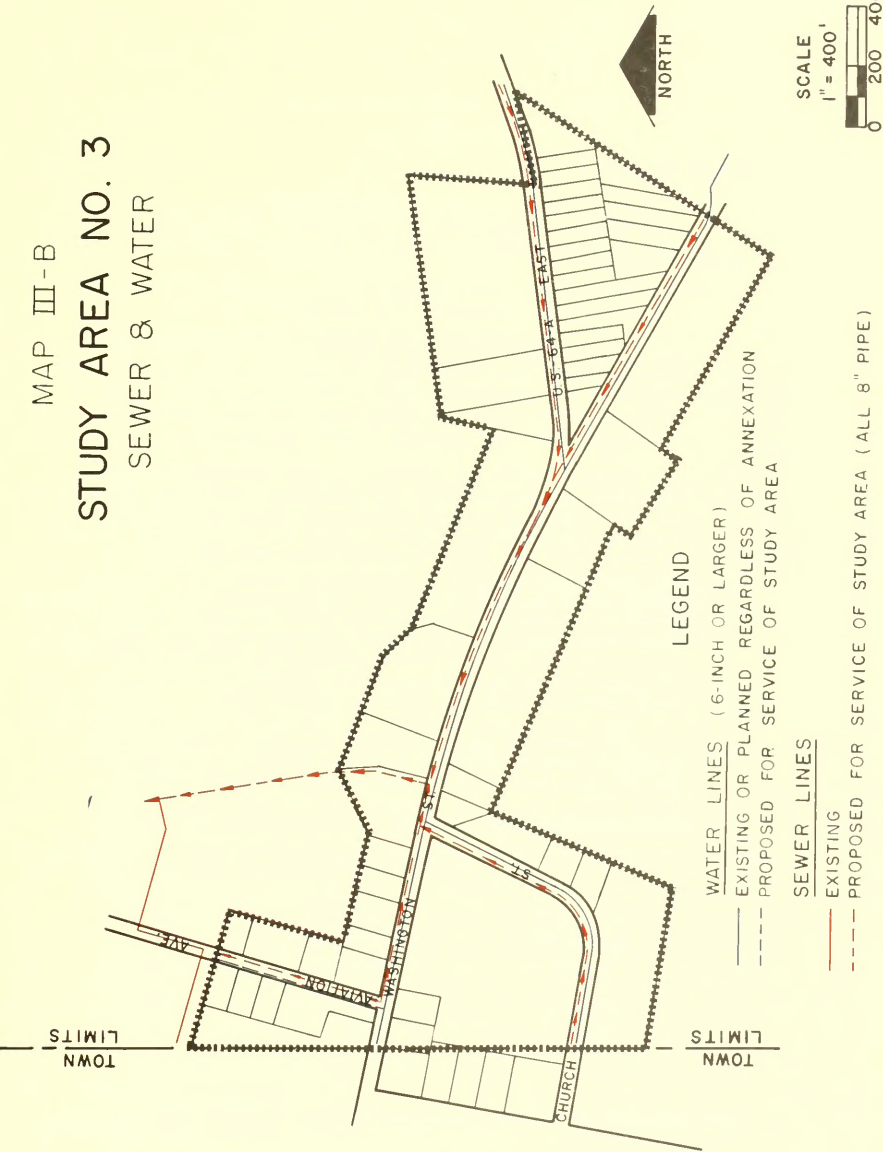
WATER ACCOUNT: NET CHANGE IN INCOME FROM ANNEXATION:

	<u>\$2,157 Loan at 4% interest</u>		
	<u>20 year term</u>	<u>30 year term</u>	<u>40 year term</u>
Net Revenue Increase:	\$ 936.	\$ 936.	\$ 936.
Net Operating Expense Increase:	-382.	-382.	-382.
Amortization Payment:	-159.	-125.	-109.
NET CHANGE IN INCOME:	\$ 395.	\$ 429.	\$ 445.

MAP III-B

STUDY AREA NO. 3

SEWER & WATER



STUDY AREA NO. 3

Sewer Account:

The sewer system improvements proposed for this area shown on MAP III-B, page 49. Estimates of their cost are entered in EXHIBIT D, which follows.

The sewer improvements were proposed without a professional engineering study.

The sewage from this area will not flow by gravity into the existing system, but it can be directed to the valley of a small branch east of Town where it can be piped down to the outfall proposed for the new sewage treatment plant.

Lines of 8" in diameter, the minimum standard size for street mains, are proposed here and used as the basis of cost estimates. However, a more intensive study may reveal that a larger pipe should be used for the line leading from Highway 64A to the new sewage plant outfall; a large area to the south of this line, now being developed for residences, could be served by a line in this location. A 12" line, the same size as that planned for the sewage plant outfall, would cost another \$1,500. for this 900 foot stretch. This would affect the annual debt service cost by no more than \$100.

No revenue was credited to the Sewer Account because, under current policy, there is no special charge for the use of the sewers after the tap-on fee.

EXHIBIT D

STUDY AREA NO. 3

SEWER ACCOUNT

SEWER ACCOUNT: Capital Outlay to Begin Service

<u>Item</u>	<u>Quantity</u>	<u>Unit Price</u>	<u>Total</u>
8" Vitrified Clay Pipe	6,350 lin. ft.	5.00	\$31,750.
Replacing Asphalt Pavement	100 lin. ft.	1.75	175.
Replacing Concrete Pavement	100 lin. ft.	2.00	200.
Total Construction Cost:			32,125.
Contingency Cost (10% of Construction Cost)			3,213.
Engineering Cost (6% of Construction & Contingency Cost)			2,120.
Total Capital Outlay:			<u>\$37,458.</u>

The above figures are based on the assumption that the State Highway Commission will permit breaching of State maintained highways in the Study Area. If they do not, and it is necessary to place sewer mains on both sides of the roadway to minimize the number of crossings the following approximate additional cost would be incurred:

<u>Extra length of 8" sewer main in lineal feet</u>	<u>Cost at \$6.00 per foot</u>	<u>Cost of highway crossing at \$1,000</u>	<u>Total Extra Cost</u>	<u>Annual Cost</u>
600	\$3,600	\$3,000	\$6,600	\$383.*

SEWER ACCOUNT: Annual Cost of Retiring Debt on Capital Outlay

Annual payment required to retire a debt of \$37,458.00 at 4% interest, with varying lengths of term. (Amortization)

<u>Term of Loan (years)</u>	<u>Annual Payment per \$1,000.</u>	<u>Annual Payment on \$37,458</u>
20	\$73.58	\$2,756
30	57.83	2,166
40	50.52	1,892

* Assuming a debt would be incurred for total cost, to be amortized over 30 years at 4% interest.

EXHIBIT D

STUDY AREA NO. 3

SEWER ACCOUNT

SEWER ACCOUNT: Revenue Increases from Annexation

Revenue from all users in Study Area:
 Less: revenue from present customers: none
 Net Revenue Increase:

SEWER ACCOUNT: Operating Expense Increase from Annexation

<u>Town Budget Item:</u>	<u>Percent of Budget Item Charged to Sewer Account</u>	<u>Cost Units</u>	<u>Unit Cost</u>	<u>Total Cost</u>
<u>Public Works</u>				
Labor:				
Supervisory:	50%	47 Customers	2.50	118.
<u>Streets & Sidewalks:</u>				
Labor, Nonsupervisory:	5%	47 Customers	.75	35.
<u>General & Administrative</u>				
Clerical Salaries; Office Expenses; Telephone; General Expenses:	25%	47 Customers	3.40	160.
<u>Buildings & Grounds:</u>				
Labor; Other Expense:	12½%	47 Customers	1.20	56.
Total Operating Expense Increase:				<u>\$369.</u>

SEWER ACCOUNT: NET CHANGE IN INCOME FROM ANNEXATION:\$37,458 Loan at 4% Interest

	<u>20 year term</u>	<u>30 year term</u>	<u>40 year term</u>
Net Revenue Increase:	\$ ---.	\$ ---.	\$ ---.
Net Operating Expense Increase:	-369.	-369.	-369.
Amortization Payment:	-2,756.	-2,166.	-1,892.
NET CHANGE IN INCOME:	-3,125.	-2,535.	-2,261.

STUDY AREA NO. 3

All Accounts:

EXHIBIT E shows the estimated impact on the Nashville treasury of annexation of Study Area No. 3 under current conditions and policies as set forth at the beginning of this section.

EXHIBIT E

STUDY AREA NO. 3

ALL ACCOUNTS

ALL ACCOUNTS: Net Income Change from Annexation (Annual Basis)

(Including capital outlay debt amortized at 4% interest
over indicated repayment periods)

<u>Net change in:</u>	<u>20 year term</u>	<u>30 year term</u>	<u>40 year term</u>
General Account:	\$ 883.	\$ 883.	\$ 883.
Water Account:	395.	429.	445.
Sewer Account:	-3,125.	-2,535.	-2,261.
Total Net Change in Income:	<u>-1,847.</u>	<u>-1,223.</u>	<u>-933.</u>

ALL ACCOUNTS: Capital Outlays necessary to extend services:

General Account:	\$ ----.
Water Account:	2,157.
Sewer Account:	37,458.
All Accounts:	<u>\$39,615.</u>

EVENTS AND DEVELOPMENTS THAT COULD CHANGE
THE FINANCIAL RESULTS OF ANNEXATION

The paragraphs that follow present developments that can improve the financial impact of annexation but that cannot be controlled by the Town, namely: State-allocated funds, Federal financial assistance, for sewer and water facilities, private land development in the Study Areas. Although some of these developments could contribute substantially to improving the financial attractiveness of annexation, each of them suffers from limitations that make them of small significance to the annexation decision at this time:

1. The State-allocated revenues would not be available until after the 1970 Census.
2. According to officials connected with the program, Nashville would have a low priority for further Federal grants to be applied to the sewer and water systems.
3. Private land development in the Study Areas has not been proceeding at a rate that would significantly affect the costs and revenues of annexation, as they have already been calculated, over the next five years or so.

State Allocated Funds:

Powell Bill Revenues:

After the 1970 census (in 1971 or 1972), any additional population in Nashville would be included as a basis for certain revenues collected at the State level and allocated to towns. While the allocation per person is increasing annually, the 1965 rate of \$2.30 per person will be used for calculations. Assuming the estimated population of the Study Areas remained the same as it is now, the Study Area populations would bring in the following revenues annually, beginning in 1971 or 1972:

<u>Study Area</u>	<u>Population</u>	<u>Annual Revenue</u>
No. 1	119	\$ 274
No. 2	426	980
No. 3	139	320
All Three	<u>684</u>	<u>\$1,574</u>

Beer and Wine Tax Revenue:

Beer and Wine tax revenue is allocated to towns based on population of the latest census, like the Powell Bill Funds. The latest rate of return is \$1.37 per person. Under the same assumptions as applied to the Powell Bill Funds, the Study Areas would bring in the following annual revenues after 1971:

<u>Study Area</u>	<u>Population</u>	<u>Annual Revenue</u>		
		<u>Beer & Wine</u>	<u>Powell Bill</u>	<u>Total</u>
No. 1	119	\$163	\$274	\$ 437
No. 2	426	584	980	1,564
No. 3	139	190	320	510
All	684	\$937	\$1,574	\$2,511

Federal Sewer and Water Facility Grants:

Federal grants such as Nashville is scheduled to receive to help finance its sewage treatment works and water tower are also designed to apply to the type of sewer and water lines that would be involved in serving the Study Areas. The State Director of the FHA reports, however, that Nashville's chances of obtaining additional grants are slim.

Of the sewer and water facilities proposed in this report to serve the Study Areas, the following capital outlays would appear to be eligible for grants, of up to 50% of cost, through the Federal Farmers Home Administration:

<u>Study Area</u>	<u>System</u>	<u>Amount Eligible</u>	<u>Amount of 50% grant</u>	<u>Annual debt service reduction (30 year basis)</u>
1	Water	\$20,823	\$10,412	\$ 603
	Sewer	30,000	15,000	868
2	Water	Already covered	_____	_____
	Sewer	13,000	6,500	377
3	Water	2,157	1,078	63
	Sewer	4,758	2,379	138
All	Water	22,780	11,490	666
	Sewer	41,758	20,879	1,206

Land Development

After the Study Areas had been supplied with the full range of Town services, additional development on the vacant lots in these areas would bring the Town more extra revenues than extra expenses. It is estimated that a new medium-priced house occupied by a family of four would bring the town \$100 of net income per year, provided;

- (1) No new streets must be cut or paved by the Town.
- (2) The Town doesn't have to pay for extensions of sewer and water lines (for either of the following reasons: (a) the lines are already in place, (b) the owner pays for the cost of the extension.
- (3) Any sewer or water connection costs are covered by fees.
- (4) No additional street lights are necessary.
- (5) Water rates and taxes remain the same as at present, and no sewer service charge is enacted.

A breakdown of the costs and revenue estimates for such a case is given in Appendix B, Exhibit D, Page xxi.

Unfortunately, there has been little development activity in the Study Areas in recent years; the modest amount of development in Nashville's fringe areas has been confined to Study Area No. 4, which does not yet meet the requirements for annexation without petition. It is believed that land development could not be relied upon to make a significant difference in the financial results of annexation of Study Areas Nos. 1, 2, or 3 within the next 5 years.

Policy Changes Affecting the Financial Impact of Annexation:

If the Town of Nashville wants to annex the Study Areas and other developing areas in the future, yet wants to minimize the burden of such annexation on its taxpayers, some changes in the terms on which it extends and maintains its municipal services would help. Some possible changes are discussed below:

SPECIAL ASSESSMENTS:

North Carolina law gives Towns the authority to extend sewer and water systems, and, within their corporate

limits, to assess the cost of these extensions against property that abuts on them, whether or not the property is developed or connected to the extensions. (G.S. 160-241). The assessed property owners must pay off their assessments within 10 years. The application of special assessments to the extension of sewer and water lines facilitates annexation in two ways:

- (1) It permits the Town to pay off the debt on the part of the improvements cost covered by special assessments within 10 years.
- (2) It places the annual expense of debt service on the assessed parties.

The moral justification for assessing unconnected and undeveloped property is that the value of the property is increased by the presence of the public system, whether it is used or not. Although Towns may extend and assess for extensions on the resolution of the Town Board alone, it is a common practice, where public health is not at stake, for Towns to wait until a majority of property owners along the route of the extension petition for service before the assessment method is applied. This practice gives the affected property owners a voice in the decision.

Towns are permitted to assess the full costs of the improvements required to serve property, including the cost of oversize mains and inaccessible portions of the extension, against the owners of the property abutting on the lines to which connections can be made (at an equal rate per front foot). However, it is the practice in some towns to finance trunk mains, sewage pumps, sewage force mains and other unusual items by means other than assessments, such as connection fees or service charge revenues.

Special Assessments for Water Extensions:

Special assessments are especially appropriate for water extensions because owners of abutting developed property obviously receive the benefits of fire protection, including lower fire insurance rates, even when they do not connect to the line and thus contribute to the support of the water system. (This argument may not apply where property taxes are used to subsidize the water system. This is not the case in Nashville).

To provide an estimate of the possible reduction of long-term debt and annual debt service if an assessment policy were applied in the case of the Study Areas, a front-foot charge against property fronting on the new water lines proposed for the Study Areas was assumed.^{1/} The charge was set at \$1.80 per front foot, which would provide approximately the amount necessary to finance the standard 6-inch street mains that serve residential areas. The results of assessing all property, regardless of its development, are shown in the following table:

Study Area	Total footage fronting on proposed water lines	Amount	Percent of Area's capital outlay needs for water:	Annual debt service savings to Town (30 year loan basis)
1	9,000 ^{1/}	\$16,200	78% ^{2/}	\$ 940.
2	10,600	19,080	148% ^{3/}	1,107.
3 ^{4/}	1,200	2,157	100%	125.
All	20,800	\$37,437	100%	\$ 2,172.

^{1/} At the boundaries of Study Area No. 1 are drawn for this report, about 2600 feet of the frontage counted in the above table would be on property outside the Town limits that could not be assessed. The boundary as drawn could be shifted 100 feet south and still meet the statutory requirements as stated in G.S. 160-453.4 (Appendix A), making assessment possible, if the Town wished to adopt an assessment policy.

^{2/} The low percentage of total cost here is due to the fact that the capital outlay estimates were based on 8-inch rather than the standard 6-inch mains. If the Town were to take up the assessment policy, it might be better off to make a loop of 6-inch mains to replace the dead-end 8-inch mains proposed. The cost might be higher but there would be 1,000 more front feet of land that could be served and assessed.

^{3/} Assessments would exceed costs in Study Area No. 2 because of the 34% Federal grant.

^{4/} Additional revenue could be obtained from this Area if the standard front foot rate were applied to those properties with access to the proposed new 12" line connecting the Town system to the new well and proposed water tank. About 3,000 front feet of land would have access to this line but no access to the 6-inch line along Highway 64-A.

To see how the above arrangement might affect the annual cost of annexation, the annual figures are applied to the Basic Estimates that were given earlier. A 30-year debt repayment period was assumed.

	<u>Study Areas</u>			
	<u>No. 1</u>	<u>No. 2</u>	<u>No. 3</u>	<u>All</u>
Basic Estimates of Water Account change from annexation:	\$ -1,086	\$ 215	\$ 429	\$ -442
Reduction in debt service expenses to Town from application of assessment policy:	940	1,107	125	2,172
Basic Estimates as adjusted: (Water Account)	<u>-146</u>	<u>1,322</u>	<u>554</u>	<u>1,730</u>
Basic Estimate of loss from annexation, All Accounts: adjusted for application of assessments for water extensions:	-3,764	-5,782	-1,223	-10,769
	<u>-2,824</u>	<u>-4,675</u>	<u>-1,098</u>	<u>-8,497</u>

Special Assessments for Sewer Extensions

The table below provides an estimate of the amount by which the Basic Estimates of the long-term debt and annual debt service for sewer extensions could be reduced under the following provisions: developed or developable property abutting on the sewer extension would be assessed on a front-foot basis at \$3.00 per front-foot. (This charge is based on the estimated cost of an average foot of 8" sewer main with appurtenances).

Study Areas	Total Front Footage	Total Assessment		Annual debt service reduction (30 year loan basis)
		Amount	Percent of Area's Capital outlay needs for Sewer	
1	8,800 ^{1/}	\$26,400	43%	\$1,527
2	10,000	30,000	81%	1,735
3	10,900	32,700	87%	1,891
All	29,700	\$89,100	66%	\$5,153

^{1/} As the boundaries of Study Area No. 1 were drawn for this report, about 2600 feet of the frontage counted in the table would be on property outside the Town limits that could not be assessed. The boundary as drawn could be shifted 100 feet south and still meet the statutory requirements as stated in G.S. 160-453.4 (Appendix A), so this property could be assessed, if the Town chose to adopt an assessment policy.

In the table below, the annual debt service reductions estimated above are applied to the Basic Estimates of changes in the Sewer Account and All Accounts from annexation.

	<u>No. 1</u>	<u>No. 2</u>	<u>No. 3</u>	<u>All</u>
Basic Estimate of Sewer Account change from annexation:	-3,837	-2,811	-2,535	-9,183
Reduction in debt service expense to Town from application of sewer assessments:	1,527	1,735	1,891	5,153
Basic Estimate of Sewer Account change as adjusted:	<u>-2,310</u>	<u>-1,076</u>	<u>-644</u>	<u>-4,030</u>
Basic Estimate of loss from annexation, adjusted for application of assessment policy:	<u>-3,764</u>	<u>-5,782</u>	<u>-1,223</u>	<u>-10,769</u>
	<u>-2,237</u>	<u>-4,047</u>	<u>668</u>	<u>-5,616</u>

Special Assessments: Summary:

The table below combines the Water Account and the Sewer Account Basic Estimates as adjusted for special assessments (from the immediately preceding pages) with the Basic Estimate of the General Account, to give a picture of the combined impact of applying the sample special assessment policies for sewer and water set forth above. To make the estimates conservative, an adjustment is added to account for the situation where no new water customers would tap onto the water extensions, depriving the Town of water service charge revenues. A 30 year debt repayment period is assumed.

	<u>Study Areas</u>			
	<u>No. 1</u>	<u>No. 2</u>	<u>No. 3</u>	<u>All</u>
Basic Estimates, All Accounts:	-3,764	-5,782	-1,223	-10,760
General Account; Basic Estimate of net income change from annexation:	1,159	-3,186	883	-1,144
Water Account: Basic Estimate ad- justed for appli- cation of special assessments:	-146	1,322	554	1,730
Sewer Account: Basic Estimates ad- justed for applica- tion of special assessments:	-2,310	-1,076	-644	-4,030
Total, All Accounts:	<u>-1,297</u>	<u>-2,940</u>	<u>+793</u>	<u>-3,444</u>
Adjustment for case where <u>no</u> new water users tap onto new water extensions:	-576	-2,208	-1,200	-3,984
Adjusted Total:	<u>-1,873</u>	<u>-5,148</u>	<u>-407</u>	<u>-7,428</u>

The figures above are, of course, based on the complete sewer and water improvements as proposed in the Basic Estimates section, serving all developed properties in the Study Areas. If extensions were based on petition some lines might not be requested and might not be extended. In any such case the Town would not lose any more money than those amounts shown in the line labeled "Total, All Accounts", and it might lose less.

The figures indicate that, by applying assessment policies before annexing, the Town could reduce its net annual loss from annexing all three Study Areas substantially. The savings would range from \$3,000 to \$7,000 annually, depending on the number of parties who tapped onto the new lines.

Of the \$172,997 capital outlay estimated for complete sewer and water improvements in all three Study Areas, special assessments might (see examples) cover as much as \$126,537. All the debt covered by special assessments would be paid off within 10 years after the assessments were levied, leaving only \$46,460 in long term debt.

Other Arrangements for Financing Extensions:

Where special assessments for the financing of sewer and water extensions are not possible or desirable, other arrangements can be used to avoid extensions that lose money for the Town. Some of these arrangements place the risk of loss on the parties requesting the extension; these parties may be required to pay for construction themselves, or the Town may pay for construction, with the petitioners guaranteeing the Town against loss. The guarantee that the petitioners will make up any insufficiencies in revenue from the line. In cases where private parties pay for extensions that will serve more property than their own, arrangements are usually made to reimburse them out of revenues obtained from parties who later tap onto the line. These revenues can come from charges for connection, based on front-footage or acreage, or they may come from water or sewer service charges.

Sewer and Water Service Charges:

Sewer Service Charge:

In the same fashion that the water rates (service charges) are used to support Nashville's water system, sewer rates can be applied to supporting the Town sewage disposal system. Such a charge is justified on the grounds that those persons whose wastes require the operation of a disposal system should pay the costs of its operation, in proportion to the amount of costs they impose.

The most widely used arrangement for attempting to make sewer use charges proportional to costs imposed is to charge for sewer service on the basis of the amount of water consumed by the user.

Nashville's engineering consultants on the proposed sewage treatment plant have recommended the establishment of a sewer service charge to pay for the new plant and related construction.^{1/} The consultants recommend a charge set at 85% of the user's water bill, which would produce enough revenue from the present 500 water and sewer users (all inside the Town limits) to pay the annual operating and debt service expenses of the new facility, which expenses are estimated at \$21,150 annually. The sewer service charge would amount to about \$42 per year for the average water user with a sewer connection.

If the Study Areas were annexed and the residents connected to the public sewer system, they would pay the same sewer charge as those inside the old limits, providing the Town with extra revenue. In the table below, it is assumed that all of the presently developed properties in the Study Areas would connect onto the proposed sewer extensions and, on the average, pay \$42. per year for sewer service, based on their use of water or some other measure. (This would, of course, be an over-optimistic estimate unless the Town made connection compulsory).

<u>Study Area</u>	<u>Estimated number of future users, now located in area:</u>	<u>Annual revenue at \$42.00 per customer</u>
1	35	\$1,470
2	86	3,612
3	47	1,974
<u>All</u>	<u>168</u>	<u>\$7,056</u>

^{1/} L. E. Wooten and Company, Preliminary Report on Sewage Treatment and Disposal for Town of Nashville, Addendum No. 1, January 5, 1966, page 2.

An estimated \$34 of every \$42 of revenue brought in by an additional sewer customer would be in excess of the cost of serving him, not counting extensions of mains. This revenue could reasonably be used to lower everybody's sewer charge rates. Some of it should be set aside to pay for system depreciation and to replace the capacity that has been absorbed by the new customer. The rest of it could reasonably be used to lower everyone's sewer rates, or perhaps to help finance the new extensions. It can be argued that property owners should pay directly for their extensions, and the sewer service charges they pay should go entirely to help the old customers pay off the sewage treatment plant. On the other hand, the old customers could not have their rates lowered at all unless the extensions were made and the new parties tapped on, so there is room for bargaining. No matter which of the above ways the extra sewer charge revenue was used, it would lower the costs of annexation as calculated in the Basic Estimates. (The Study Areas if annexed, would contribute more revenue to the Town through this sewer service charge than they would if a tax increase were used to finance the plant.)

It is estimated, based on the breakdown of municipal expenses in Exhibit D of Appendix C, that a sewer charge of \$50.00 per year per average customer would make the Town sewer system a self-supporting enterprise (not including installation of extensions). (If future extensions were financed with special charges, this average cost would go down when the new sewage plant was paid off). This would take another \$8.00 per year on the already proposed average charge of \$42.00. It would raise the following revenue (same assumptions as in preceding table):

<u>Study Area</u>	<u>Number of Occupied Properties</u>	<u>Annual Revenue at \$8.00 per user</u>
1	35	\$ 280
2	86	688
3	47	376
<u>All</u>	<u>168</u>	<u>\$1,344</u>
Town Users	500	\$4,000

An Additional Water Use Charge:

An increase in the current water rates would be hard to justify. A recent study of the revenues and expenses involved in operating the Town's water system revealed that revenue from the current water rates would be sufficient to cover all expenses, including debt service on the scheduled new tank and trunk lines, involved in running the water system.¹ This situation indicates that water users as a group will be paying more than enough money to cover the Town's cost of supplying them with water.²

SUMMARY: POLICY CHANCES:

The foregoing discussions on various policy changes show that, Nashville could annex all of the Study Areas without even raising taxes, if it chose to adopt policies for sewer and water services that would place the burden of the cost on the parties who receive the benefit or whose activities make the expense necessary.

All of the policies mentioned are now in use in North Carolina cities and towns. Assistance in finding the combination that fits Nashville's particular needs and situation can be obtained from the North Carolina League of Municipalities in Raleigh and from the Institute of Government in Chapel Hill.

¹ Engineer's Preliminary Report, Water Supply and Distribution System Improvements, etc., William B. McIntyre, Consulting Engineer, December 10, 1965.

² Water consumers of the Nashville system pay not only for the cost of producing the water they use, but also for the additional facilities installed to provide fire protection, namely: extra capacity storage tanks, extra capacity trunk lines and street mains, and fire hydrants. To some extent, then, part of the water bills of water users is a subsidy to provide fire protection to properties that use little or no water. This situation provides a reason for using property taxes to pay for a share of the water system costs, and also for charging property owners for the cost of placing water mains along their property lines.

CONCLUSIONS AND RECOMMENDATIONS

It is the view of the Planning Board that it would be in the community interest for each of the Study Areas to be brought into the Town of Nashville, provided that the annexation can be achieved without financial hardship or injustice. Annexation should take its proper place among the other projects that will require use of the Town's debt capacity, of course; the Planning Board is not prepared to judge at this time the priority that should be given to annexation.

It appears that means are available for the extension and financing of sewer and water services that would facilitate the process of annexation and would result in a fair sharing of the costs of these services among the parties who benefit from them.

The Planning Board recommends the following steps to the Town Board:

1. Establishment of a set of policies governing the extension of sewer and water services, including pre-conditions of extension, fees and charges for service, and possible alternatives for financing extensions. It is recommended that experts from the following organizations be consulted: (1) the Town attorney, (2) The Institute of Government at Chapel Hill, (3) The North Carolina League of Municipalities, (4) Nashville's engineering consultants.
2. Submission of an inquiry to the Local Government Commission to obtain its opinion on the amount of additional debt the Town will be permitted to assume in financing the extension of Town services into the Study Areas.
3. Provided debt capacity is available, have professional engineers make estimates of the costs of extending sewer and water into the Study Areas, and estimate the financial burden the Town would have to undertake as its share of the extension costs.
4. Provided that annexation would be financially feasible and provided no other capital projects have a stronger claim on the Town's remaining debt capacity, hold a referendum to secure the voters' decision concerning the issuance of bonds to finance any capital outlays required to serve the areas considered for annexation.

5. If the voters approve the bond issue, proceed with the annexation of the Study Areas. The following priority is suggested on the basis of need for urban services:

- (1) Study Area No. 2
- (2) Study Area No. 3
- (3) Study Area No. 1

APPENDIX

C.S. CHAPTER 160, ARTICLE 36

AN ACT PROVIDING A PROCEDURE FOR THE EXTENSION OF MUNICIPAL CORPORATE LIMITS IN MUNICIPALITIES HAVING A POPULATION OF LESS THAN 5,000 PERSONS.

The General Assembly of North Carolina do enact:

C.S. 160-453.1. Declaration of Policy. It is hereby declared as a matter of State Policy:

(a) That sound urban development is essential to the continued economic development of North Carolina.

(b) That municipalities are created to provide the governmental services essential for sound urban development and for the protection of health, safety and welfare in areas being intensively used for residential, commercial, industrial, institutional and government purposes or in areas undergoing such development;

(c) That municipal boundaries should be extended, in accordance with legislative standards applicable throughout the State, to include such areas and to provide the high quality of governmental services needed therein for the public health, safety and welfare; and

(d) That new urban development in and around municipalities having a population of less than 5,000 persons tends to be concentrated close to the municipal boundary rather than being scattered and dispersed as in the vicinity of larger municipalities, so that the legislative standards governing annexation by smaller municipalities can be simpler than those for large municipalities and still attain the objectives set forth in this Section;

(e) That areas annexed to municipalities in accordance with such uniform legislative standards should receive the services provided by the annexing municipality as soon as possible following annexation.

G.S. 160-453.2. Authority to Annex. The governing board of any municipality having a population of less than 5,000 persons according to the last Federal decennial census may extend the corporate limits of such municipality under the procedure set forth in this Act.

G.S. 160-453.3. Prerequisites to Annexation: Ability to Serve. A municipality exercising authority under this Act shall make plans for the extension of services to the area proposed to be annexed and shall, prior to the public hearing provided for in Section 5 of this Act, prepare

a report setting forth such plans to provide services to such area. The report shall include:

(a) A map or maps of the municipality and adjacent territory to show the following information:

- (1) The present and proposed boundaries of the municipality.
- (2) The proposed extensions of water mains and sewer outfalls to serve the annexed area, if such utilities are operated by the municipality.

(b) A statement showing that the area to be annexed meets the requirements of Section 4 of this Act.

(c) A statement setting forth the plans of the municipality for extending to the area to be annexed each major service performed within the municipality at the time of annexation. Specifically, such plans shall:

- (1) Provide for extending police protection, fire protection, garbage collection and street maintenance services to the area to be annexed on the date of annexation on substantially the same basis and in the same manner as such services are provided within the rest of the municipality prior to annexation. If a water distribution system is not available in the area to be annexed, the plans must call for reasonably effective fire protection services until such time as water lines are made available in such area under existing municipal policies for the extension of water lines.
- (2) Provide for extension of water mains and sewer lines into the area to be annexed so that property owners in the area to be annexed will be able to secure public water and sewer service according to the policies in effect in such municipality for extending water and sewer lines to individual lots or subdivisions. If the municipality must, at its own expense, extend water and/or sewer mains into the area to be annexed before property owners in the area can, according to municipal policies, make such connection to such lines, then the plans must call for contracts to be let and construction to begin on such lines within one year following the effective date of annexation.
- (3) Set forth the method under which the municipality plans to finance extension of services into the area to be annexed.

G.S. 160-453.4. Character of Area to be Annexed.

(a) A municipal governing board may extend the municipal corporate limits to include any area which meets the general standards of subsection (b), and which meets the requirements of subsection (c).

(b) The total area to be annexed must meet the following standards:

- (1) It must be adjacent or contiguous to the municipality's boundaries at the time the annexation proceeding is begun.
- (2) At least one-eighth of the aggregate external boundaries of the area must coincide with the municipal boundary.
- (3) No part of the area shall be included within the boundary of another incorporated municipality.

(c) The area to be annexed must be developed for urban purposes. An area developed for urban purposes is defined as any area which is so developed that at least sixty percent (60%) of the total number of lots and tracts in the area at the time of annexation are used for residential, commercial, industrial, institutional or governmental purposes, and is subdivided into lots and tracts such that at least sixty percent (60%) of the total acreage, not counting the acreage used at the time of annexation for commercial, industrial, governmental or institutional purposes, consists of lots and tracts five acres or less in sizes.

(d) In fixing new municipal boundaries, a municipal governing board shall, wherever practical, use natural topographic features such as ridge lines and streams and creeks as boundaries, and if a street is used as a boundary, include within the municipality developed land on both sides of the street.

G.S. 160-453.5. Procedure for Annexation. (a) Notice of Intent. Any municipal governing board desiring to annex territory under the provisions of this Act shall first pass a resolution stating the intent of the municipality to consider annexation. Such resolution shall describe the boundaries of the area under consideration and fix a date for a public hearing on the question of annexation, the date for such public hearing to be not less than thirty days and not more than sixty days following passage of the resolution.

(b) Notice of Public Hearing. The notice of public hearing shall

- (1) Fix the date, hour and place of the public hearing.

- (2) Describe clearly the boundaries of the area under consideration.
- (3) State that the report required in Section 3 of this Act will be available at the office of the municipal clerk at least fourteen days prior to the date of the public hearing. Such notice shall be given by publication in a newspaper having general circulation in the municipality once a week for at least four successive weeks prior to the date of the hearing. The period from the date of the first publication to the date of the last publication, both dates inclusive, shall be not less than twenty-two days including Sundays, and the date of the last publication shall be not more than seven days preceding the date of public hearing. If there be no such newspaper, the municipality shall post the notice in at least five public places within the municipality and at least five public places in the area to be annexed for thirty days prior to the date of public hearing.

(c) Action Prior to Hearing. At least fourteen days before the date of the public hearing, the governing board shall approve the report provided for in Section 3 of this Act, and shall make it available to the public at the office of the municipal clerk. In addition, the municipality may prepare a summary of the full report for public distribution.

(d) Public Hearing. At the public hearing a representative of the municipality shall first make an explanation of the report required in Section 3 of this Act. Following such explanation, all persons resident or owning property in the territory described in the notice of public hearing, and all residents of the municipality, shall be given an opportunity to be heard.

(e) Passage of the Annexation Ordinance. The municipal governing board shall take into consideration facts presented at the public hearing and shall have authority to amend the report required by Section 3 of this Act to make changes in the plans for serving the area proposed to be annexed so long as such changes meet the requirements of Section 3. At any regular or special meeting held no sooner than the seventh day following the public hearing and no later than sixty days following such public hearing, the governing board shall have authority to adopt an ordinance extending the corporate limits of the municipality to include all, or such part, of the area described in the notice of public hearing which meets the requirements of Section 4 of this Act and which the governing board has concluded should be annexed. The ordinance shall:

- (1) Contain specific findings showing that the area to be annexed meets the requirements of Section 4 of this Act. The external boundaries of the area to be annexed shall be described by metes and bounds. In showing the application of Section 4 (c) and 4 (d) to the area, the governing board may refer to boundaries set forth on a map of the area and incorporate same by reference as a part of the ordinance.
- (2) A statement of the intent of the municipality to provide services to the area being annexed as set forth in the report required by Section 3 of this Act.
- (3) A specific finding that on the effective date of annexation the municipality will have funds appropriated in sufficient amount to finance construction of any water and sewer lines found necessary in the report required by Section 3 to extend the basic water and/or sewer system of the municipality into the area to be annexed, or that on the effective date of annexation the municipality will have authority to issue bonds in an amount sufficient to finance such construction. If authority to issue such bonds must be secured from the electorate of the municipality prior to the effective date of annexation, then the effective date of annexation shall be no earlier than the day following the statement of the successful result of the bond election.
- (4) Fix the effective date of annexation. The effective date of annexation may be fixed for any date within twelve months from the date of passage of the ordinance.

(f) Effect of Annexation Ordinance. From and after the effective date of the annexation ordinance, the territory and its citizens and property shall be subject to all debts, laws, ordinances and regulations in force in such municipality and shall be entitled to the same privileges and benefits as other parts of such municipality. The newly annexed territory shall be subject to municipal taxes levied for the fiscal year following the effective date of annexation. If the effective date of annexation falls between January 1 and June 30, the municipality shall, for purposes of levying taxes for the fiscal year beginning July 1 following the date of annexation, obtain from the county a record of property in the area being annexed which was listed for taxation as of said January 1. If the effective date of annexation falls between June 1 and June 30, and the effective date of the privilege

license tax ordinance of the annexing municipality is June 1, then businesses in the area to be annexed shall be liable for taxes imposed in such ordinance from and after the effective date of annexation.

(g) Simultaneous Annexation Proceedings. If a municipality is considering the annexation of two or more areas which are all adjacent to the municipal boundary but are not adjacent to one another, it may undertake simultaneous proceedings under authority of this Act for the annexation of such areas.

(h) If, not earlier than one year from the effective date of annexation, and not later than fifteen months from the effective date of annexation, any person owning property in the annexed territory shall believe that the municipality has not followed through on its service plans adopted under the provisions of Sections 3 (c) and 5 (e), such person may apply for a writ of mandamus under the provisions of Article 40, Chapter 1 of the General Statutes. Relief may be granted by the Judge of Superior Court (1) if the municipality has not provided the services set forth in its plan submitted under the provisions of Section 3 (c) (1) on substantially the same basis and in the same manner as such services were provided within the rest of the municipality prior to the effective date of annexation, and (2) if at the time the writ is sought such services set forth in the plan submitted under the provisions of Section (3) (c) (1) are still being provided on substantially the same basis and in the same manner as on the date of annexation of the municipality. Relief may also be granted by the Judge of Superior Court (1) if the plans submitted under the provisions of Section 3 (c) (3) require the construction of major trunk water mains and sewer outfall lines and (2) if contracts for such construction have not yet been let. If a unit is issued, costs in the action, including a reasonable attorney's fee for such aggrieved person, shall be charged to the municipality.

G.S. 160-453.6. Appeal. (a) Within thirty days following the passage of an annexation ordinance under authority of this Act, any person owning property in the annexed territory who shall believe that he will suffer material injury by reason of the failure of the municipal governing board to comply with the procedure set forth in this Act or to meet the requirements set forth in Section 4 of this Act as they apply to his property may file a petition in the Superior Court of the County in which the municipality is located seeking review of the action of the governing board.

(b) Such petition shall explicitly state what exceptions are taken to the action of the governing board and what relief the petitioner seeks. Within five days after the petition is filed with court, the person seeking review shall serve copies of the petition by registered mail, return receipt requested, upon the municipality.

(c) Within fifteen days after receipt of the copy of the petition for review, or within such additional time as the court may allow, the municipality shall transmit to the reviewing court (1) a transcript of the portions of the municipal journal or minute book in which the procedure for annexation has been set forth and (2) a copy of the report setting forth the plans for extending services to the annexed area as required in Section 3 of this Act.

(d) If two or more petitions for review are submitted to the court, the court may consolidate all such petitions for review at a single hearing, and the municipality shall be required to submit only one set of minutes and one report as required in subsection (c).

(e) At any time before or during the review proceeding, any petitioner or petitioners may apply to the reviewing court for an order staying the operation of the annexation ordinance pending the outcome of the review. The court may grant or deny the stay in its discretion upon terms as it deems proper, and it may permit annexation of any part of the area described in the ordinance concerning which no question for review has been raised.

(f) The court shall fix the date for review of annexation proceedings under this Chapter, which review date shall preferably be within thirty days following the last day for receiving petitions to the end that review shall be expeditious and without unnecessary delays. The review shall be conducted by the court without a jury. The court may hear oral arguments and receive written briefs, and may take evidence intended to show either (1) that the statutory procedure was not followed or (2) that the provisions of Section 3 were not met, or (3) that the provisions of Section 4 have not been met.

(g) The court may affirm the action of the governing board without change, or it may

- (1) Remand the ordinance to the municipal governing board for further proceedings if procedural irregularities are found to have materially prejudiced the substantive rights of any of the petitioners.

(2) Remand the ordinance to the municipal governing board for amendment of the boundaries to conform to the provisions of Section 4 if it finds that the provisions of Section 4 have not been met; provided, that the court cannot remand the ordinance to the municipal governing board with directions to add area to the municipality which was not included in the notice of public hearing and not provided for in plans for service.

(3) Remand the report to the municipal governing board for amendment of the plans for providing services to the end that the provisions of Section 3 of this Act are satisfied. If any municipality shall fail to take action in accordance with the court's instructions upon remand within three months from receipt of such instructions, the annexation proceeding shall be deemed null and void.

(h) Any party to the review proceedings, including the municipality, may appeal to the Supreme Court from the final judgment of the Superior Court under rules of procedure applicable in other civil cases. The appealing party may apply to the Superior Court for a stay in its final determination, or a stay of the annexation ordinance, whichever shall be appropriate, pending the outcome of the appeal to the Supreme Court; provided, that the Superior Court may, with the agreement of the municipality, permit annexation to be effective with respect to any part of the area concerning which no appeal is being made and which can be incorporated into the City without regard to any part of the area concerning which an appeal is being made.

(i) If part or all of the area annexed under the terms of an annexation ordinance is the subject of an appeal to the Superior or Supreme Court on the effective date of the ordinance, then the ordinance shall be deemed amended to make the effective date with respect to such area the date of the final judgment of the Superior or Supreme Court, whichever is appropriate, or the date the municipal governing board completed action to make the ordinance conform to the court's instructions in the event of remand.

G.S. 160-453.7. Annexation Recorded. Whenever the limits of a municipality are enlarged in accordance with the provisions of this Act, it shall be the duty of the mayor of the municipality to cause an accurate map of such annexed territory, together with a copy of the ordinance duly certified, to be recorded in the office of the register of deeds of the county or counties in

which such territory is situated and in the office of the Secretary of State.

G.S. 160-453.8. Authorized Expenditures. Municipalities initiating annexations under the provisions of this Act are authorized to make expenditures for surveys required to describe the property under consideration or for any other purpose necessary to plan for the study and/or annexation of unincorporated territory adjacent to the municipality. In addition, following final passage of the annexation ordinance, the annexing municipality shall have authority to proceed with expenditures for construction of water and sewer lines and other capital facilities and for any other purpose calculated to bring services into the annexed area in a more effective and expeditious manner prior to the effective date of annexation.

G.S. 160-453.9. Definitions. The following terms where used in this Act shall have the following meanings, except where the context clearly indicates a different meaning:

(a) "Contiguous area" shall mean any area which, at the time annexation procedures are initiated, either abuts directly on the municipal boundary or is separated from the municipal boundary by a street or street right-of-way, a creek or river, the right-of-way of a railroad or other public service corporation, lands owned by the municipality or some other political subdivision, or lands owned by the State of North Carolina.

(b) "Used for residential purposes" shall mean any lot or tract five acres or less in size on which is constructed a habitable dwelling unit.

G.S. 160-453.10. Land Estimates. In determining degree of land subdivisions for purposes of meeting the requirements of Section 4 of this Act, the municipality shall use methods calculated to provide reasonably accurate results. In determining whether the standards set forth in Section 4 have been met on appeal to the Superior Court under Section 6 of this Act, the reviewing court shall accept the estimates of the municipality:

(a) As to total area if the estimate is based on an actual survey, or on county tax maps or records, or on aerial photographs, or on some other reasonably reliable map used for official purposes by a governmental agency unless the petitioners on appeal demonstrate that such estimates are in error in the amount of five percent (5%) or more.

(b) As to degree of land subdivision, if the estimates are based on an actual survey, or on county tax maps or records, or on aerial photographs, or on some other reasonably reliable source, unless the petitioners on appeal show that such estimates are in error in the amount of five percent (5%) or more.

G.S. 160-453.11. Effect on Other Laws. From and after July 1, 1959, this Act shall be in full force and effect with respect to all municipalities having a population of less than 5,000 persons according to the last preceding Federal decennial census. The provisions of Article 36 of Chapter 160 of the General Statutes of North Carolina shall remain in full force and effect with respect to such municipalities as an alternative procedure until June 30, 1962. From and after July 1, 1962, all the provisions of Article 36 of Chapter 160 of the General Statutes of North Carolina, with the exception of Section 160-452 as it exists at the time of the passage of this Act or as it may be amended at this Session of the General Assembly, shall be repealed. Insofar as the provisions of this Act are inconsistent with the provisions of any other law, the provisions of this Act shall be controlling.

G.S. 160-453.12. The provisions of this Act shall not apply to the following counties: Alleghany, Cumberland, Edgecombe, Franklin, Halifax, Harnett, Iredell, Nash, Pender, Perquimans, Person and Randolph provided that the provisions of this part (shall apply to Whitakers, Battleboro, Sharpsburg, Nashville, Spring Hope, Castalia, and Middlesex in Nash County. This part shall not apply to the town of King in Stokes County).

Notwithstanding any other provisions of this Act, Article 36 of Chapter 160 of the General Statutes of North Carolina and specifically G.S. 160-452, as the same may be rewritten or amended, shall remain in full force and effect as to the counties herein named.

EXHIBIT A

CONFORMANCE OF STUDY AREAS WITH G.S. 160-453.4, Character of Area to be Annexed.

In the text and tables below, the Study Areas chosen for consideration in this report are compared with the requirements of G.S. 160-453.4, which specifies the standards which fringe areas must meet in order to be annexed without referendum or petition.

Study Area No. 4, which failed to meet the standards, consisted of the area which came the closest to meeting the standards of the Statute after Study Areas Nos. 1, 2, and 3 were drawn.

The remainder of this section consists of quotations from the Statute followed by relevant information on the Study Areas.

"(The area to be annexed) must be adjacent or contiguous to the municipality's boundaries at the time of annexation proceeding is begun." (G.S. 160-453.4 (b,1)).

All of the Study Areas meet this requirement.

"At least 1/8 (12.5%) of the aggregate external boundaries of the area must coincide with the municipal boundary." (G.S. 160-453.4 (b,2)).

As shown in the table below, only Study Area No. 4 fails to meet this requirement, by a very small amount. This deviation from the standard could be easily corrected if Study Area No. 2 were annexed first.

PERCENT OF STUDY AREA BOUNDARY
CONTIGUOUS WITH THE TOWN LIMITS

Study Area	Total Perimeter (feet)	Contiguous Perimeter (feet)	Percent Contiguous
1	7840	1,060	13.5%
2	7980	2,120	26.6%
3	10,610	1,820	17.5%
4	16,990	1,950	11.5%

"No part of the area shall be included within the boundary of another incorporated municipality." (G.S. 160-453.4 (b-3)).

All the Study Areas meet this requirement.

(c)"... at least sixty percent (60%) of the total number of lots and tracts.....are used for residential, commercial, industrial, institutional or governmental purposes....." (G.S. 160-453.4 (c))

As shown in the table below, only Study Area No. 4 does not meet this requirement, although it does fall considerably short of the requirement.

NUMBER AND PERCENT OF LOTS THAT ARE IN URBAN USE

<u>Use</u>	<u>Study Area</u>			
	1 Number of Lots	2 Number of Lots	3 Number of Lots	4 Number of Lots
Residential	28	88	37	30
Institutional or Governmental	2	3	0	0
Commercial	1	5	5	1
Industrial	3	0	1	1
Total Number in Urban Use	34	96	43	32
Number Undeveloped	8	53	12	62
Percent of Lots in Urban Use	80.9%	64.4%	78.1%	34.0%

"... at least sixty percent (60%) of the total acreage, not counting the acreage...for commercial, industrial, governmental or institutional purposes, (must consist of) lots and tracts five acres or less in size." (G.S. 160-453.4 (c)).

As shown in the table below, Study Area No. 4 fails to meet this standard at the present time.

PERCENT OF ACREAGE IN PARCELS OF LESS THAN 5 ACRES IN SIZE

Number of Acres of Land in Uses other than Com- mercial, Industrial, Governmental or Institutional	<u>Study Area</u>			
	No. 1	No. 2	No. 3	No. 4
Total Number	30.5	39.1	37.9	84.5
Number of Acres in Parcels of 5 Acres or Less	19.2	39.1	31.4	39.6
Percent in Parcels of 5 Acres or Less	63%	100%	83%	47%

"In fixing new municipal boundaries, a municipal governing board shall, wherever practical, use natural topographic features such as ridge lines and streams and creeks as boundaries, and if a street is used as a boundary, include within the municipality developed land on both sides of the street." (G.S. 160-453.4 (d))

The rule concerning natural topographic features did not become relevant in drawing the boundaries of the Study Areas, but, where roads were used as boundaries, land developed for urban purposes was included on both sides.

EXHIBIT B: BASES OF REVENUE ESTIMATES

This exhibit identifies the sources of municipal revenue and explains how their changes resulting from annexation were estimated. The revenue estimates by source are shown in Exhibits E: Detailed Revenue and Expense Estimates for Study Areas 1, 2 and 3.

GENERAL ACCOUNT REVENUES

Ad Valorem Taxes

Personal Property:

Business Inventories and Fixtures:

The 1965 tax valuations of major businesses in the Study Areas were obtained from the County tax records; the valuations of the smaller firms were estimated. The revenue figures for each Study Area were the result of applying the Town's current tax rate (\$.012) to these valuations.

Household Furniture, Motor Vehicles, and All Other Personal Property:

This figure was estimated for 1965, rather than looked up in the tax records. It was assumed that, since this category of property equals 25% of the assessed value of Real Estate in Nashville, the same percentage would hold outside.

Real Estate:

To arrive at the revenue estimate from Town taxes on Real Estate in the event of annexation, the current tax rate (\$.012) was applied to the assessed value of real property in the Study Areas as recorded in the Nash County Tax Office for 1965. Where only a portion of a land parcel was included in the Study Area, the assessed value of the included portion was estimated.

Corporate Excess Property:

Atlantic Coast Line:

The assessed value of A.C.L. property was \$33,000 per mile of right-of-way in 1965. This figure was applied to A.C.L. right-of-way in the Study Areas.

Carolina Power and Light Co.

The assessed value of the C.P. & L property serving the Study Areas was roughly estimated by the company's valuation engineer.

Carolina Telephone and Telegraph Co.

The assessed value of C.T. & T property in the Study Areas was assumed to be roughly equal to that of the power line value of the C.P. & L. Co.

Powell Fund Revenues:

Nashville receives from the State Highway and Public Works Fund an annual allocation of money, the amount varying with two quantities: (1) the population of the Town as recorded by the Federal Census, and (2) the number of miles of public road maintained by the Town.

In estimating the amount based on street length coming due to Nashville from annexation, in each Study Area the latest (Sept. 1965) allocation per mile (\$490) was applied to the length of street expected to be maintained by the Town in case of annexation. This portion of the Powell Bill allocation would be available within a year after annexation.

In estimating the amount based on population that would come due to Nashville from annexation, the latest allocation per capita (\$2.30) was applied to the estimated population of each Study Area as of 1965. This portion of the annual allocation would not be available until after the 1970 Census figures were certified, probably in 1972.

The Town's allocation per mile and per person can be expected to increase in the future as it has in the past, but the latest figures were used to be conservative.

State Intangible Taxes:

The State collects taxes on Personal Intangible Property (cash, bank deposits, stocks, bonds, etc.) and allocates it to counties on the basis of population and location of property. Each county's allocation is divided among the county and municipalities in proportion to their individual shares of the total amount of ad valorem taxes levied by all jurisdictions in the county.

To estimate the revenues from this source from annexation, the amount of Intangible Tax revenue that Nashville received in 1965 per dollar of its 1964 ad valorem tax levy (about \$.05) was applied to the estimated ad valorem tax levy for each Study Area.

State-levied Franchise Taxes:

The State collects taxes on the gross receipts of telephone, electric, and piped gas companies and allocates revenues therefrom to the municipalities (in which the customers used in companies' services.)

To estimate the amount of Franchise revenues that would accrue to Nashville as a result of annexation, the latest annual revenue from this source to Nashville was applied to Nashville's number of households (as of 1960 Census) to get a revenue-per-household figure. This figure (2.17) was then applied to the number of households estimated in each Study Area as of 1965.

Beer and Wine Tax Revenue:

State-collected Beverage Tax revenues are allocated to Towns based on their population as of the latest Federal Decennial Census, so annexation would not bring additional revenue from this source to Nashville until 1972. The estimated amounts it would bring for each Study Area were based on a per capita figure, derived from applying the Beverage Tax revenues that Nashville received in 1964-1965 to the Town's population as of 1960.

Poll Taxes:

A tax of \$1.00 per year is levied by the Town of Nashville on each male resident between the ages of 21 and 50. The additional revenue upon annexation from this source was computed from a per capita figure derived from the 1965 levy and Nashville's total population (as of 1960) applied to the estimated population of each of the Study Areas.

Dog Taxes:

A tax of \$2.00 per year is levied by the Town for each dog kept in Town. The additional revenue from this source was estimated on the basis of 1965 revenue per capita from this source, applied to the populations of the Study Areas.

Business (Privilege) License Taxes:

As authorized by Section 105 of the N. C. General Statutes, the Town of Nashville levies taxes on certain business activities within the corporate limits. These are lump sum taxes with the amount of the tax varying with the nature of the business. The revenue estimates from these taxes in the annexation Study Areas, were based on a visual survey of properties in these Areas and the application of the tax amounts in the Town's License Tax Schedule.

Car Tags:

The Town of Nashville has a \$1.00 per year registration fee for motor vehicles. These fees brought in about \$1.16 per household in fiscal year 1964-1965. This figure was applied to the estimated number of households in each Study Area as of 1965.

Water and Sewer Account Revenue

Water Sales Revenue:

The average annual water bill for a residential user of water in Nashville is \$48.00. This figure was applied to the estimated number of potential new water users in the Study Areas to obtain the annual figure for each area.

Other Water and Sewer Fund Income:

A certain amount of income is obtained from charges for the service of extending sewer and water laterals from the street main to individual property lines and installing water meters. At present rates the fees for such service do not cover the costs thereof, but for this report it has been assumed that, on the average, tap-on fees will equal tap-on costs, so that there will be no significant change in Town revenues or expenses from this activity in case of annexation.

EXHIBIT C: BASES OF EXPENSE ESTIMATES

The following material gives some explanations of how the expenses applied to the Study Areas were obtained. Exhibit D summarizes the calculations of those expenses that were figured on a service unit basis. The Budget Accounts in Exhibit C-2 are taken from the Town Budget. The assignment of the annual expense items to the special accounts and the choice of cost units were made with the assistance of Mr. Billie Kennedy, the Town Clerk.

Exhibit D does not cover all the annual expenses of the Town; it covers only those activities of the Town forces that are expected to require more time, effort or materials as a result of annexation. The second column in Exhibit C-2 presents the percentage of annual expense in each budget category that is expected to vary with annexation.

In the Administrative account, an equal percentage of annual expense (25%) was charged to the Water Account and the Sewer Account. This was done in the expectation that a sewage charge would be added to the present water charge, and would be billed in the same operation. If this does not occur, a full 50% of the Administrative budget should be charged to the Water Account.

In the Streets and Sidewalks account, only 5% of the annual expense for nonsupervisory labor was charged to water and 5% to the Sewer Account, because maintenance work on any new sewer and water lines in the annexed areas is expected to be very low for the first several years. In the older parts of Town it is estimated that 20% of this labor is spent on the water system and 15% on the sewer system.

The annual expense items not covered in Exhibit D are discussed below:

Electric Lights (General Account)

Street Lights:

Street lights would be installed and maintained by the Carolina Power and Light Company with the Town paying a monthly rental based on the type of light installed. It was assumed that the lights installed would be 7000 lumen lights renting at about \$3.00 per month, and that they would be placed at all street intersections and spaced along streets to serve existing clusters of development properties.

Police Department (General Account)

The Police Department with its one chief and two patrolmen is now working at full capacity and the chief believes that any increase in Town area would require the hiring of another officer, at a cost of about \$3,600 per year. However, he estimated that this single additional officer will make it possible to patrol all the Study Areas. To simplify calculations, each Study Area was charged \$1,200 for policing costs, or 1/3 of the total cost, regardless of whether a Study Area would be annexed alone or with another area.

EXHIBIT C-2

EXHIBIT C-2:
ESTIMATION OF UNIT COSTS OF MUNICIPAL SERVICES AFFECTED BY ANNEXATION¹

<u>Town Budget Account</u>	<u>Percent of Annual Expense Charged to Special Acc'ts</u> ²	<u>Annual Expense Amount Charged to Special Acc'ts</u>	<u>Cost Units</u>	<u>Resultant Unit Costs</u>
<u>Administrative</u>				
Clerical Salaries;				
Office Expenses;				
Telephone, etc.				
(General Account)	50%	\$4,050	1,423 People	\$ 2.85
(Water Account)	25%	2,025	600 Users	3.40
(Sewer Account)	25%	2,025	600 Users	3.40
<u>Buildings and Grounds</u>				
Labor; Other Expense:				
(General Account)	none			
(Water Account)	12.5%	725	600 Users	1.20
(Sewer Account)	12.5%	725	600 Users	1.20
<u>Streets and Sidewalks</u>				
Labor, Supervisory				
(General Account)				
Refuse Collection	25%	750	500 Users	1.50
Other:	75%	2,250	7.5 miles, Town Maintained Road	300.00
Labor, Nonsupervisory				
(General Account)				
Refuse Collection	25%	2,250	500 Users	4.50
Other:	40%	3,640	7.5 miles, Town Maintained Road	485.00
(Water Account)	5%	450	600 Users	.75
(Sewer Account)	5%	450	600 Users	.75
Machinery and Equipment				
(General Account)	100%	5,000	7.5 miles, Town Maintained Road	667.00
<u>Materials and Supplies</u>				
(General Account)				
Motor Fuel:	100%	3,300	11 miles, total road miles	300.00
Other:	100%	3,700	7.5 miles, Town Maintained Road	495.00
<u>Public Works</u>				
Labor, Supervisory				
(Water Account)	50%	1,500	600 Users	2.50
(Sewer Account)	50%	1,500	600 Users	2.50
Electric Power				
(Water Account)	100%	1,800	600 Users	3.00
Repairs and Upkeep				
(Water Account)	50%	1,250	600 Users	2.00

¹ This table covers only those expense items from the Town Budget that are expected to increase in direct proportion to increases in the number of Cost Units (population, number of users, miles of street, etc.) The 1965-1966 Budget was used as a base for all the expense figures.

² () indicates special accounts set up for this Annexation Study only.

EXHIBIT D

EXHIBIT D:
REVENUES AND EXPENSES TO NASHVILLE BUDGET FROM ONE ADDITIONAL SINGLE
FAMILY HOUSE AND HOUSEHOLD

	<u>Impact on Town Budget</u>		
	<u>Annual Revenue</u>	<u>Annual Expense</u>	<u>Annual Deficit or Surplus</u>
GENERAL ACCOUNT:			
Revenues:			
<u>Ad Valorem Taxes</u> (rate of \$.012)			
Lot:	\$ 1,000	\$ 500	\$ 6.00
House:	10,000	5,000	60.00
Car:	1,500	750	9.00
Other Personal Property	1,000	500	6.00
<u>Powell Bill Funds:</u>	4 persons @ \$2.30 per person:		10.00
<u>Beer and Wine Tax:</u>	4 persons @ \$1.37 per person:		6.00
<u>Intangibles Tax:</u>	\$81 of ad valorem tax @ \$.05/dollar:		4.00
<u>Car Tags:</u>	1 at \$1.00		1.00
			<u>\$102.00</u>
Expenses:			
<u>Administrative and General:</u>			
	4 persons @ \$2.30 per person:		\$10.00
<u>Police:</u>	no change		
<u>Fire:</u>	no change		
<u>Streets and Sidewalks:</u>			
Refuse collection:	\$6.00 per household		6.00
			<u>\$16.00</u>
			\$86.00 surplus

EXHIBIT D

REVENUES AND EXPENSES TO NASHVILLE BUDGET FROM ONE ADDITIONAL
SINGLE FAMILY HOUSE AND HOUSEHOLD (Continued)

	<u>Impact on Town Budget</u>		
	<u>Annual Revenue</u>	<u>Annual Expense</u>	<u>Net Surplus</u>
WATER ACCOUNT:			
Revenues from water sales:	\$48.00		
Expenses of Administration & operation:		\$23.00	\$ 25.00
SEWER ACCOUNT:			
Extra expense of Administration & maintenance:		8.00	(8.00)
ALL ACCOUNTS:			
Extra revenues:	\$150.00		
Extra expenses:		\$47.00	
Net surplus:			<u>\$103.00</u>

The above figures are based on present Nashville tax rates and terms of water service. They do not take into account outlays by the Town for the following:

1. Street paving
2. Extension of sewer and water lines to reach the property.
3. Additional street lights.
4. Sewer or water tapping-on expenses that exceed tap-on fees.



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